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OCTOBER 1993

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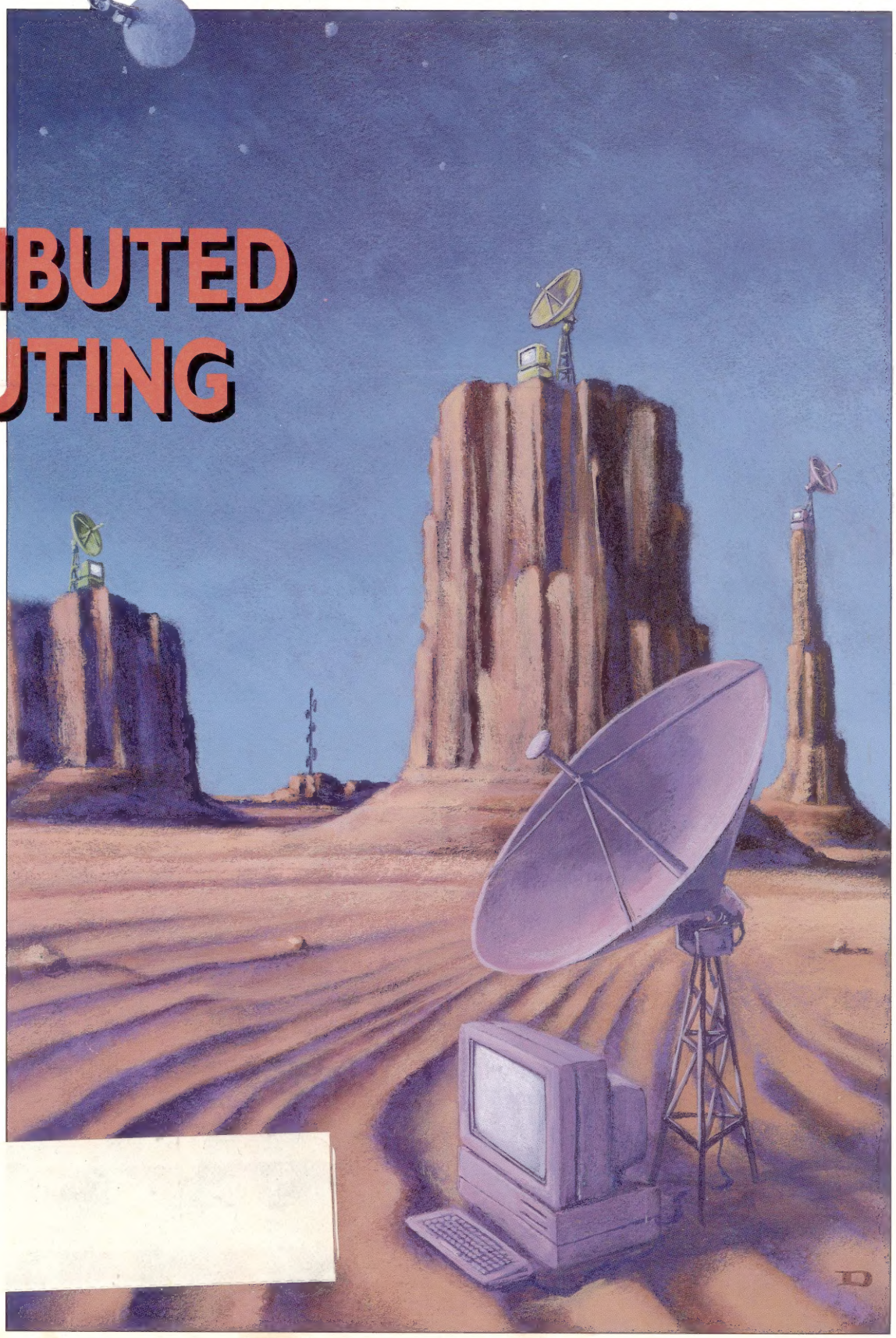

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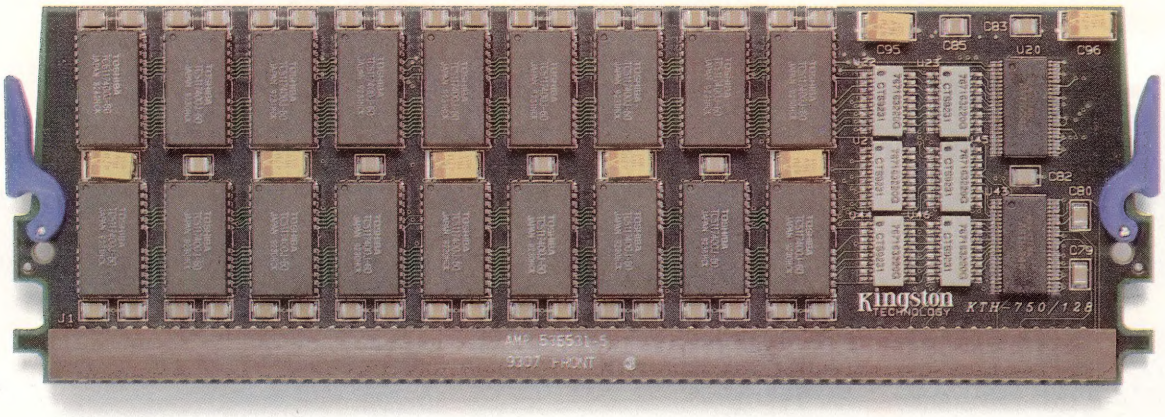

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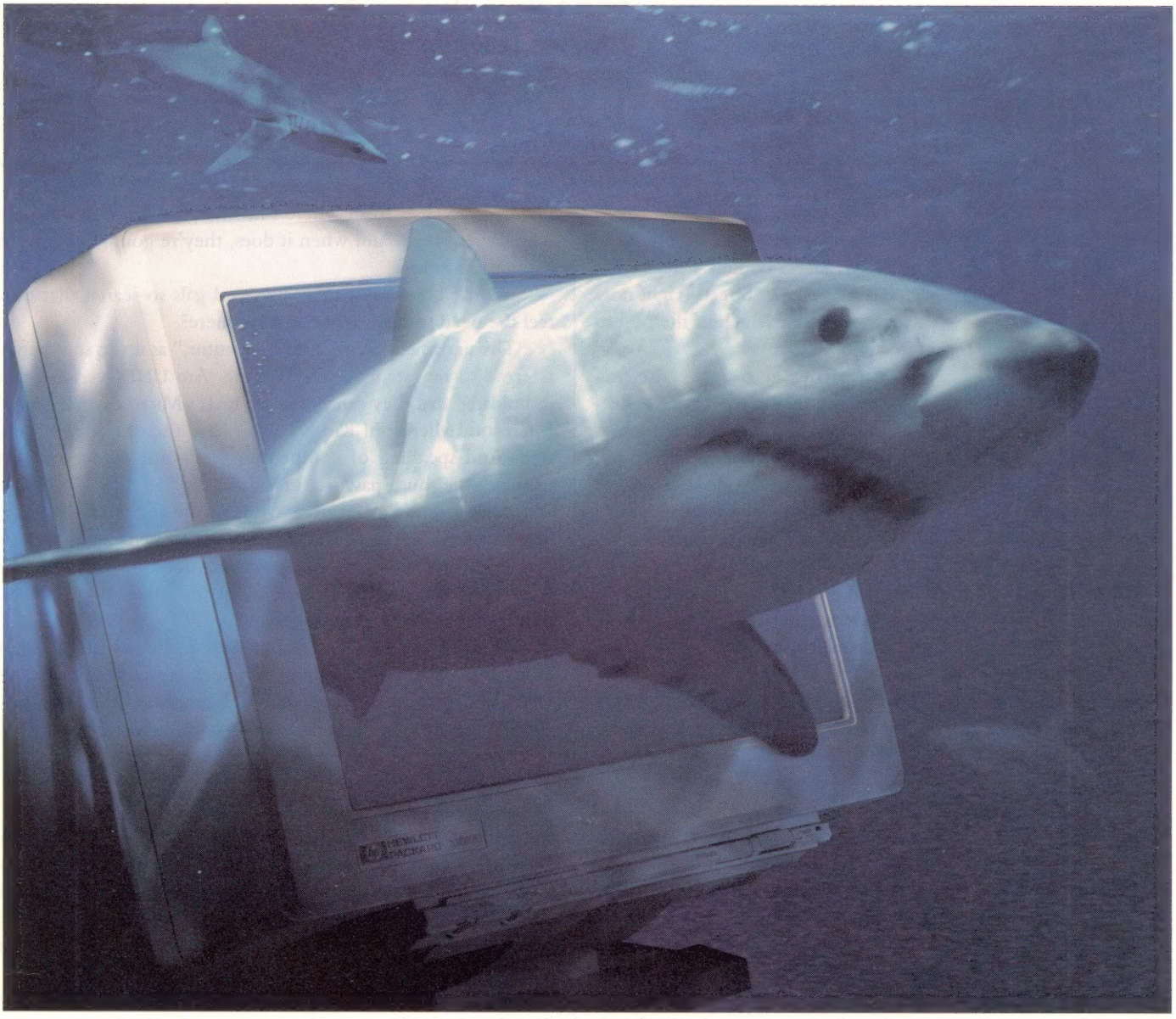

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Requiem For A Middle Weight

By Charlie Simpson

Last month I attended what promised to be a COSE main event in New York City. I also bought a tie from a vendor on West 51st Street. Right now I'm torn between which of the two to write about.

Uninspiring at best — the announcement that is — the speakers plodded through tired phrases such as "portability," "investment protection" and "reduced development time." Wondering if this wasn't some bizarre instant replay of a 1990 CASE announcement, I couldn't help feeling UNIX was entering the ring for the last time.

Like an overweight, under-trained former contender, who at one time may have had a shot at the title, the only thing this press conference offered was talk of speed, flexibility and power. But fight fans are tired of talk.

The COSE announcement covered the Common API specification, which includes the addition of a kernel level and base API specification. Over 75 UNIX system suppliers and software developers agreed on the 1,170 APIs, comprising 926 system interfaces, plus 70 header files and 174 commands.

The APIs were selected based on formal industry standards (X/Open Portability Guide) and specifications, and API usage data from UNIX-based application vendors such as Autodesk, Cadence, Design Systems, Cadre Technologies, Frame Technology, Informix Software, Island Graphics, Lotus Development, Oracle and WordPerfect.

Marc Schulman, president of Technology Strategies Group led off the announcement saying the APIs mean the "industry agrees on one way to talk to the kernels; and not one kernel."

He then compared "bad complexity" to "good complexity." 1,170 APIs? Face it, complex is complex. Users want simplicity.

Geoff Morris, president and CEO of X/Open, the company charged with formalizing and managing the UNIX API specifications, hailed the announcement as the second decade of open systems. If so, what can we expect in this decade? The provided time line has COSE submitting the Common APIs to X/Open next month followed by a spec approval period of over a year, including spec branding — does branding hurt the spec?

Kurt Seibert, senior vice president of strategic business alliances for Computer Associates tried to rally a fading audience with "We Won!" Won what? The race to the first press conference? Because, from where I'm sitting in the stands the bell hasn't even rung. And when it does, they're going to go all 18 rounds toe to toe.

So what has these COSE guys and gals so scared that they feel the need to hype what isn't yet there?

"The unnamed West Coast competitor," as it was so wimpily referred to repeatedly at the briefing. Are UNIX vendors that intimidated that they can't even say it? It's Microsoft. Microsoft, Microsoft, Microsoft! Kid NT must have the old slugger worried. And speaking of competition, let's not count out that scrappy little south paw from Novell.

Unlike my new colorful tie, which truly goes with anything; the Common API spec expects to meet 50 percent to 90 percent of developer needs. The obvious question here, besides that 40 percent spread, is what about the other 10 percent to 50 percent? Will they ever be met?

Will your existing applications have to be rewritten? Must they fit into these new APIs to function? Answers to questions such as these from the audience only confused the issue further. These are questions and answers users ultimately must face. Was this a glimpse of the future or remnants of the past?

DING DING . . . TECHNICAL FOUL

On an artistic note, COSE over stepped their historical rights when the "not a consortium" alluded that the API announcement compared with world agreements such as between Reagan and Gorbachev, and Sadat and Begin; while hinting at offering a freedom like that for which Nelson Mandella fights. What no Ghandi? COSE needs to get a perspective.

On the other hand, perhaps the analogy is closer than I first thought. Gorbachev is no longer in power, the Middle East is still a hot bed of confusion, anger and frustration, despite recent hand shaking, and we're still sorting through Reagan era "misinformations."

Charlie Simpson

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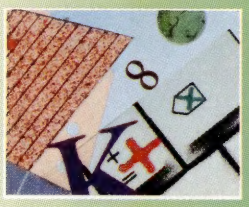

INDUSTRY WATCH

Bill Sharp

Young At Heart

When the mindset of a corporation appears to change, it's worthwhile to consider its signficance. HP, on more than a bit of a roll, is picking some bright, articulate managers to run crucial parts of its computer business.

Earlier this year; Carol Mills, 40, became general manager of HP's General Systems Division, which runs the HP 9000 Series 800 multi-user UNIX business.

Glenn Osaka, 38, already general manager of the Commercial Systems Division (CSY) which deals with the HP 3000, now is also GM of the Cooperative Computing Systems Division (CCSY).

Gary Eichhorn, 39, has been general manager of HP's Workstation Systems Group for two years.

It's very sobering for a journalist at the advanced and creaky age of 41 to ponder the meaning of high-flying, multi-billion-dollar businesses being ably managed by mere youngsters such as these. The age of general managers is creeping down as professionals with lots of computer business experience come up through the ranks looking capable and sounding more savvy than some of their predecessors of 10 years past.

Managers with instrument backgrounds dominated in the older HP and a less daring mode of thinking worked well with their slower-moving markets. But that approach missed opportunities in the fast-paced computer business.

HP's managers have changed. For example, Mills is among a group of women who have reached the general manager level in HP during the past few years. Mills observes that, as HP becomes more market-driven, managers with marketing experience have become more important to HP. And unlike research and development, which historically was the way to rise to the top in HP's early history, marketing and finance inside HP are well-staffed with capable women. So as marketing rises in importance, so do the capable women in marketing departments. "Marketing has to become more important in order for us to meet customer needs," says Mills.

This is all great news, and Mills as well as her fellow female general manager colleagues deserve credit for what they've achieved. But HP includes about 65 divisions. Why are only six percent of them run by women in 1993? And if marketing has a fair share of highly qualified professional women, why not R&D? HP will have to change more to take advantage of its talented women.

Gustsy Moves

After her second child was born seven years ago and she was promoted to marketing manager, Mills shocked many colleagues by taking a year off to spend with her children. "I decided to place my family above work for a while," she recalls. She came back to work part-time at first, and two years later resumed a full schedule at HP. This kind of gutsy career choice must become normal, not exceptional, for HP or any corporation to succeed in the future.

Glenn Osaka believes he is currently HP's only division general manager handling two divisions at once. Osaka contrasts CSY's mature HP 3000 line and veteran management team with the younger CCSY client-server software and middleware business. The HP 3000 business is "well understood and relatively easy to manage," compared to the client-server business, where the market is evolving with extraordinary speed, he says. "The challenge there is defining a strategy for how HP can be the leader."

These challenges and rapid business pace places strains on all employees, including managers. Osaka notices that "a lot of us are working harder than ever before because of the tremendous rate of change." He wonders if younger managers are becoming essential to sustain the energy level necessary to move ahead in the computer market.

He points out that there has been "a kind of ongoing changing of the guard as HP transforms itself from an electronics company with instrumentation roots to a mainstream computer vendor."

An unmistakable part of that transformation has been HP's willingness to get the very best people it can, even if that means spiriting people away from the competition. Since Eichhorn's arrival from DEC about two years ago, HP has cut a wide swath in the workstation marketplace. Much of the technology was ready for market when Eichhorn arrived, but his aggressive approach to meeting customer needs has moved HP down in price and up in features sooner than would have been the case.

Ask about Eichhorn at HP and you hear comments such as brilliant, creative, high-energy and a great sense of humor. He gets credit for everything from crowd-pleasing workstations to making COSE happen, to doing a fine impression of Ed Sullivan. It probably doesn't hurt that his portion of HP now approaches $2 billion with 20 percent growth in the first six months of 1993 when the rest of the market is in single digits.

HP always has a great crowd of talented people. Management that can keep such powerful minds working well as a team, in spite of inevitable competition and strong egos, can't help but serve its customers well. But leadership opportunities obligate these outstanding people to continue making changes, to keep the corporate culture fast on its feet. ■

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Between A Tape And A Hard Disk

Concorde Technologies' New Optical Disk Drives Provide Storage Alternatives

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Concorde Technologies Inc. (San Diego, Calif.) is now shipping a new family of optical drives for all major UNIX platforms including HP, Sun, IBM, DEC and Silicon Graphics, that make optical storage the storage technology of choice for many applications.

Optical disk storage technology is positioned between tape and disk storage providing many of the benefits of each. Tape media is much less expensive, giving tape a much lower cost-per-megabyte stored. And, because tape is removable, the capacity is effectively unlimited and security is enhanced because the tapes can be stored off-site in secure facilities.

Data stored on a hard disk is randomly available in milliseconds while data stored on tape, even a tape jukebox, will generally not be available for several minutes, and then only serially.

"This new combination of performance, capacity and cost-per-megabyte stored, results in a 'near-line' storage option that falls between hard disk and tape storage allowing for a new approach to system optimization," says Jim Jenkins, president of Concorde Technologies.

Concorde Technologies' optical storage systems provide performance approaching that of magnetic media drives at a fraction of the cost-per-megabyte:

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Concorde's new family of optical storage systems consists of a 1.3 GB table-top model and four library (optical jukebox) systems ranging in capacity from 20.8 GB to 187.2 GB. The devices come standard with a single-ended SCSI interface and may optionally be ordered with a differential SCSI interface. The library versions can have one, two or four optical drives along with robotics for swapping the optical media. The storage systems are multi-function, handling either 5 1/4-inch, 1.3 GB rewritable, or write once, read many (WORM) optical media. The drives also support the older 650 MB optical cartridges. Available packaging varies depending upon model, but includes table-top, floor-standing, and rack-mounted versions.

All models feature state-of-the-art 3600/2400 rpm optical mechanisms, comply with optical disk industry standards and come with a one year warranty. On-site maintenance service also is available. The drive mechanisms are specified at 80,000 hours mean time between failure (MTBF) and the robotics in the library models are specified at over 1 million mean swaps between failure (MSBF).

Uses for optical storage systems include hierarchical file migration/version management, records archival because the media has more long-term stability than tape and supports random access, storing document images where huge amounts of data need to be stored economically yet be accessible randomly, and storing sensitive or classified data because the media is removable.

Prices range from $3,695 for the single drive, 1.3 GB table-top model to $75,995 for the four drive, 187.2 GB (144 optical cartridges) floor-standing library system. — *John P. Burke, HP 3000 Editor*

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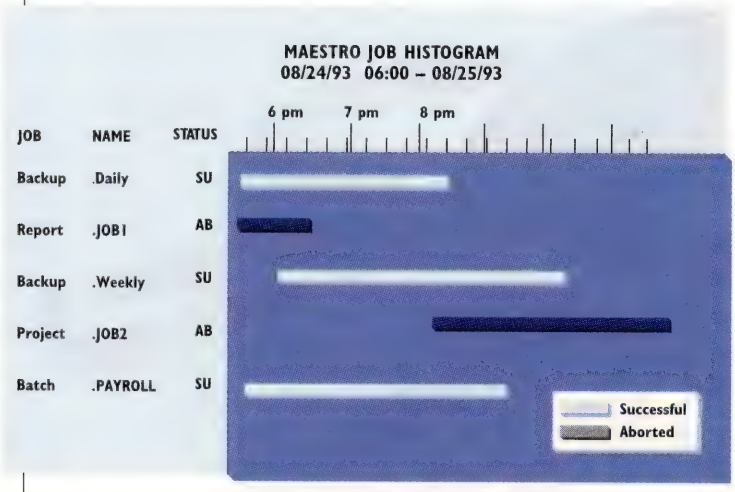

Unison-Tymlabs Enters The Open Systems Market With Its Newest Systems Management Solution For UNIX

The hot market for network system management software is getting hotter. With the introduction of Maestro for UNIX, its automated network workload management software, Unison-Tymlabs (Sunnyvale, Calif.) places itself in a position to feel the heat.

"Maestro is unique in the sense that it has been commercially proven for eight years," says Rory Roybal, director of Open Systems at Unison-Tymlabs. HP 3000 shops have been able to process up to 4,000 batch jobs per day since its introduction in 1986. Now, the same is possible for UNIX shops.

This batch job scheduling and workload management product for UNIX systems runs in pure HP-UX environments and on mixed HP-UX and HP-MPE platforms.

"Maestro is the only product [of its kind] that completely integrates HP 3000 and UNIX networks," says Michael Casteel, chief technology officer and a Unison-Tymlabs founder. "They can be fully coordinated and centrally controlled."

In a distributed system environment, the host machine manages file and resource dependencies, system and schedule limits, and full inter-system job and schedule dependencies. The Maestro master console on the server provides an interface for all monitoring and control.

Maestro for UNIX can schedule jobs anywhere on the network according to customized business calendars. Job initiation can be dependent on the successful completion of other jobs, the existence of needed files, user response to a prompt, or the availability of hardware or data resources.

Maestro limits the number of jobs executing simultaneously, integrates jobs submitted with "at" and "batch" commands, enforces job dependencies, controls across systems and platforms, and provides real-time job tracking displays. It keeps a detailed record of job execution, provides a comprehensive audit trail, logs statistics for complete reporting and analysis, documents job completion status and automates recovery procedures. It also ensures job processing integrity through fault-tolerant workload distribution.

Your system manager or administrator can automate network job scheduling, track and monitor to increase throughput, and reduce processing errors. Maestro's client-server architecture also provides control of user access and production activities on remote clients, thus improving security.

Ease Of Installation

Early reports on Maestro for UNIX praise its ease of installation, according to Roybal. "UNIX users have the anticipation that it's going to be difficult," he says. But "one site reported a 20-minute installation — that's with a 10-minute coffee break."

Scott Hirsch, senior technical specialist at RCM Capital Management, explains that the firm has 170 users using the Maestro infrastructure, processing 300 jobs per day.

"Our HP 750 workstation exchanges data with an HP 3000 ... Maestro helps give some structure to UNIX for batch, which somebody had to do," says Hirsch.

Maestro for UNIX is written in C for optimum portability and is available for HP 9000 series 700 and 800 systems operating under HP-UX version 8.0 or later. *—Lonni Wright, Contributing Editor*

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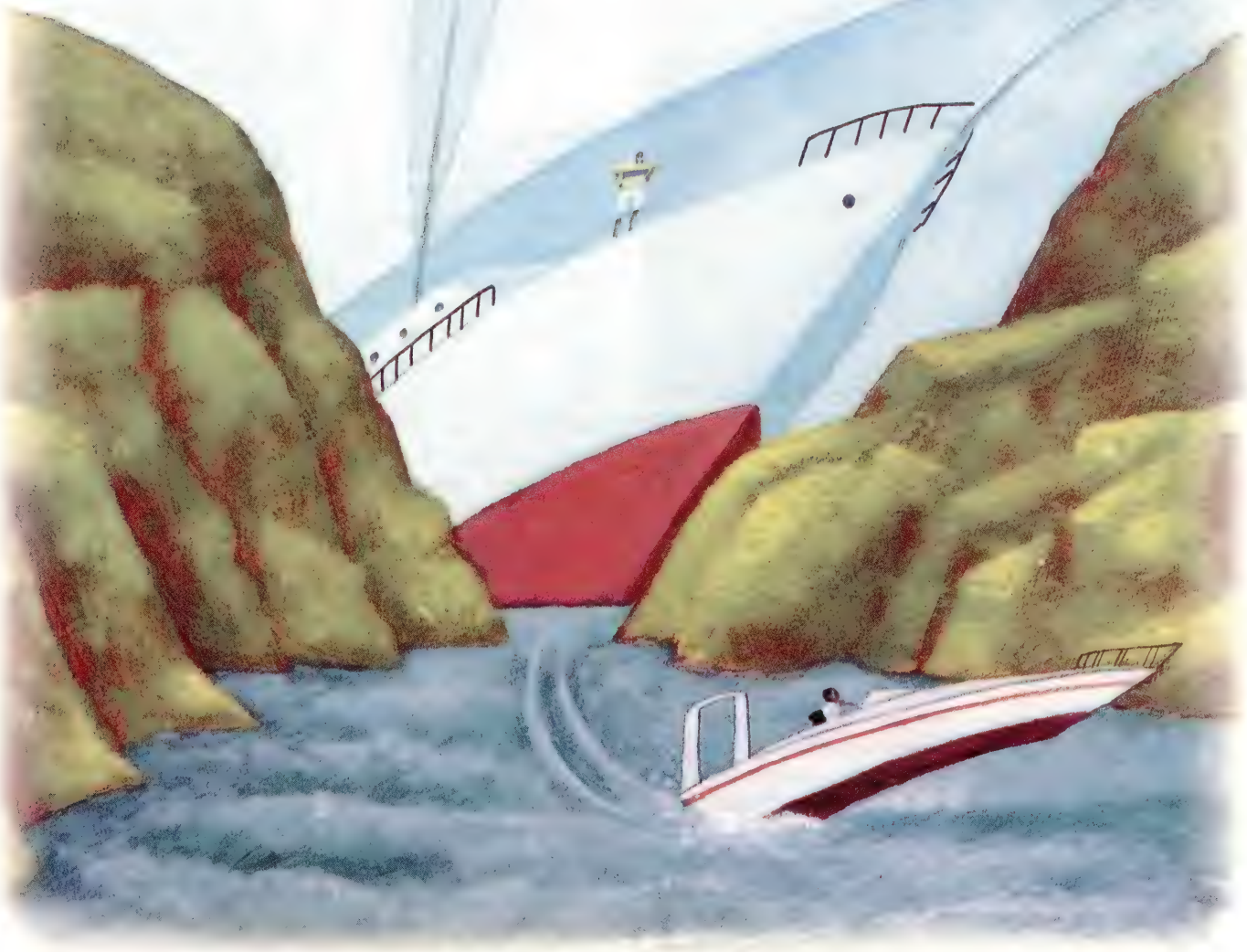

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One For All, All For One

With Cincom's Supra Server No LAN Is An Island

• • •

Despite the hype you may have heard, distributing a database across several departmental LANs, much less an enterprise, is an inherently complicated task. "Multiple servers are clumsy to update . . . they can't talk to each other," says Dave Bunker, marketing manager at Cincom Systems Inc. (Cincinnati, Ohio). That's just when you may need Supra Server, an SQL relational database.

Unlike other databases that use a traditional two-phase commit protocol (2PC) for ensuring data integrity across several servers or nodes, Supra Server goes further with something called transaction partnering. With 2PC, explains Bunker, "if any node [fails], the whole system rolls back. In transaction partnering, if just one node commits, the transaction commits if any other node restarts the negotiation. If one [node] succeeds, they all succeed." In other words, because all the nodes are "active partners" in the transaction, the net effect is a one for all approach rather than an all or nothing approach — that means your transaction is more likely to be completed.

Supra Server also provides updatable join views which allows users to update data in multiple tables with a single transaction. Benefits include simplified coding for programmers as well as fewer errors by users when retreiving data.

Bunker also points out that because Supra Server insulates the application from the physical and logical structures of the data, you can maintain application code without changes to the data. "That's true," says Samuel Smith, senior enginering programmer/analyst with the Sonoma County Water Agency in Santa Rosa, Calif. "You have several views of the data. That way, different users can have multiple views of the same database."

Working with 3GLs and flat file databases, Smith and his team of two programmers were looking "to exploit the tool to do most of the work, and for prototyping with users." After reviewing the top 20 RDBMSs, he chose Supra Server because "we could be productive without writing a whole lot of code. Cincom promised us we could keep our look and feel with their product. And we did."

All users should feel comfortable using Supra Server because according to Bunker, Supra Server is an extremely portable product. Supra Server fully supports the HP 9000 line as a client or as a server running under all versions of HP-UX and 17 additional UNIX platforms including Data General UNIX (DG-UX), DEC OSF/1, Sun Solaris and SCO UNIX.

In fact, the HP-UX platform was the first port for the new version of Supra Server. "We respect the fact that HP-UNIX is a leader in the server market," says Ed Lennon, senior product manager for Supra Server.

Prices for Supra Server 2.4 range from $1,500 to over $100,000 depending on platform and number of users.

Supra Server Version 3.0, scheduled for January 1994, will extend Supra Server's inherent distributed capabilities "by adding global directories and knowledgeable peers as well as improved server to server communications," says Lennon. With knowledgeable peers, every node is not only an active partner but an equal one, enabling any node to authorize a transaction; database performance is increased.

If developing client-server architectures and distributing databases are your game, then Supra Server may well be a name to keep in mind.—*George A. Thompson, Technical Editor*

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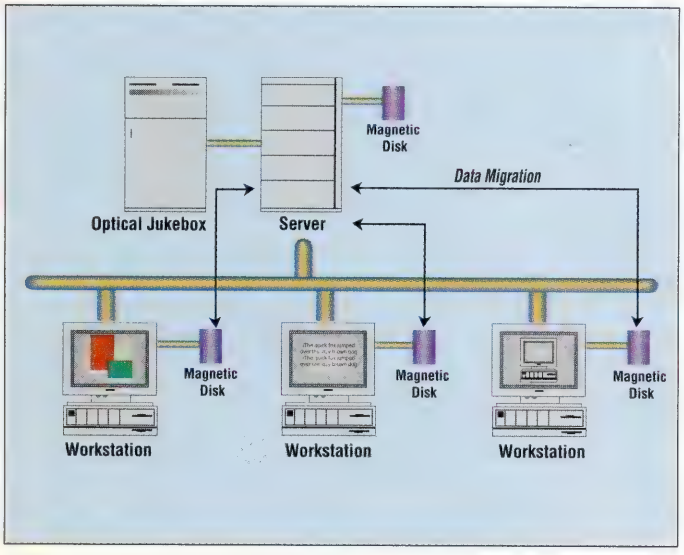
Mastering Mass Storage



QStar Technologies' MastarMind Software Orchestrates Network Storage.

• • •

Users and IS managers typically have different views of storage requirements. Managers argue that users don't need all of their data online all of the time, and that only a tiny subset of their data is required at any given time. Users, on the other hand, are interested only in how fast they can access a given piece of data, regardless of how often it's used.

To address this dichotomy of views, QStar Technologies Inc. (Rockville, Md.) developed MastarMind software for enterprise mass storage consolidation and control. MastarMind consolidates magnetic, optical and near-line media into an Integral Storage Volume, and then organizes the data within this Integral Volume according to capacity and access time. To users, the Integral Volume behaves like a standard magnetic disk, and is compatible with existing applications.

MastarMind provides automatic data migration, where the most frequently used data is moved to the fastest available media, while less frequently-accessed data is demoted to a more abundant, less expensive media.

Dynamic storage allocation increases the capacity of the Integral Volume as required — providing virtually unlimited capacity for online storage. All Integral Volume files are backed up as they are modified.

Also, all online and near-line optical media are internally and externally labeled, documented and managed. All optical media is self-contained. Directory information, data and indexes reside on a single optical platter.

To achieve this impressive hierarchical orchestration of storage media and data, MastarMind employs four cooperative modules: Migration Manager, Optical File Manager, Removable Volume Librarian and Continuous File Versioning Manager.

The Migration Manager provides data migration and dynamic storage allocation by managing the movement of data between different online storage media. The Optical File Manager controls the placement, layout and format of data on the optical media — creating an on-disk format of all file and directory information, data and indexes on each platter. A Removable Volume Librarian tracks and manages online and near-line optical media. The Continuous File Versioning Manager backs up user data and provides on-line recovery tools.

MastarMind's Migrating Cache File System (MCFS) now provides shared cache files, allowing multiple volume sets (groups of optical disks treated as single units) to use the same cache partition.

Another feature allows volume sets to be mounted without caching. Standalone drives also are supported — a useful feature for companies with remote sites using standalone drives and a jukebox at headquarters. Volume sets can span multiple jukeboxes and can be duplicated for disaster recovery.

According to Kevin Horigan, QStar's VP of North American Sales, the 6-year-old company provides compatibility with numerous operating systems and the ability to access data in multivendor environments. "Our goal," Horigan says, "is to achieve total platform/protocol/operating system/jukebox independence." Horigan notes, "MastarMind supports WORM and rewritable drives, so customers can purchase one jukebox and load it with different types of drives."

For HP users, MastarMind 2.0 runs on HP 9000 Series 800 servers. It is also available for DEC, DG, IBM and Sun platforms. Pricing begins at around $3,000. — *Grant Evans, Contributing Editor*

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Rightsizing? Think Before You Leap.

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Sorting Things Out

Syncsort Provides Mainframe Sorting Capabilities On UNIX Systems

"HP seems to be going after the large scale commercial DP environment, and a product like Syncsort is valuable in attracting that market."

Don Regan
Senior Vice President
Syncsort Inc.

In the mainframe world, where vast amounts of data must be manipulated, few tasks take up as much time and resources as sorting. Some studies show that as much as 20 percent to 30 percent of computer MIPS are used for this function. A high performance sort package is therefore essential.

For many IBM mainframe users, that package is from Syncsort Inc., a provider of sort programs for IBM mainframe operating systems. With versions for DEC VAX/VMS and HP MPE, Syncsort's sort products currently outperform and outsell all others in the mainframe market.

A sort package is the kind of tool a mainframe user will worry about losing when all the other arguments for downsizing to a low-cost, high-performance UNIX system make sense.

So, when the Astrometry Department of the U.S. Naval Observatory (Washington, D.C.) migrated from an IBM 4381 to HP 9000 model 700 workstation, it was a relief to learn that Syncsort was porting its product to HP-UX. The HP-UX product has been available since last June.

The Astrometry Department needed the same Syncsort sort program that had been used on the mainframe for the new HP-UX platform. "It was doing a job we needed to have done," a department spokesman says. "We had a lot of code built around it, so we didn't really have any choice. We had to have Syncsort running the same way and working the same way it had with our other programs."

The result has been all the department hoped for, he says. "We are very happy with the compatibility, that's always a big problem in migration. It works the same, looks the same, feels the same."

Some processing tasks that would have required weeks can now be completed in 20 to 30 minutes, he says.

The Astrometry Department's projects include cataloguing stars. A file for each star typically contains tens of megabytes of information. A current project, for example, includes half a million star files, in all, about 10 GB.

It was for this type of application that Syncsort decided to port its product to UNIX platforms. According to Dan Regan, Syncsort senior vice president, several market forces prompted the move. "We saw UNIX hardware prices beginning to plummet, and we had customers who were interested in the cost efficiencies of downsizing," says Regan. "The one piece that was missing was a commercial strength sort. The market became compelling."

Andrew Coleman, Syncsort product manager, adds that UNIX users become Syncsort customers for three reasons. Some, want to move from a mainframe to a UNIX platform to save operational costs, but keep their mainframe applications as they were. Others re-engineer applications when they make the move to gain increased performance, flexibility or ease of use.

Lastly, Coleman says, some users are implementing applications on a UNIX box for the first time. "Once they get into production they find that the volume of data is such that they need a commercial strength sort package."

Why did Syncsort choose HP-UX? Regan sees a synergy between the two companies. "HP seems to be going after the large scale commercial DP environment, and a product like Syncsort is valuable in attracting that market. We have a mutual interest in the same customer base."

Regan further explains, "HP offers a group of processors that are capable of handling any workload you might want to move to a UNIX box. Add that processing capability to the availability of high volume commercial software, of which Syncsort is a piece, and it means the market's open. All the pieces are in place." — *Sam Dickey, Contributing Editor*

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MANMAN Is A Go-Go In The U.K.

HP Alliance With ASK Group Manufactures Leading Market Share

"After six years in Europe, the U.K. constitutes approximately 80 percent of ASK's business, follwed by Germany and Holland."

Joan Willington
Former Partners Program Manager
ASK Europe

When Mike Nolan, IS manager at Cosworth Engineering in Northampton, U.K., was looking for a way to bring the racing engine maker's mixed bag of applications under control, he knew exactly which software he needed.

"[Mr. Nolan] just walked right in here and said 'I want MANMAN.' There was absolutely no cycle on this sale," says Richard Horsman, the Cosworth account manager at the ASK Group Ltd. in Central Milton Keynes, U.K.

Having worked with MANMAN at other companies in the U.K., Nolan knew it would provide the same functionality Cosworth's users were getting from a variety of packages, including HP's Manufacturing Management including MRP, inventory control, and billing and materials, and standard Cost Management applications, CODA financials and Hoskyns' IS3000 purchasing.

For the HP 3000 shop's first big software change in 25 years, Nolan says, "we basically needed a one-size-fits-all type deal, because we have every single type of manufacturing you can think of — foundry, jobbing shop, service/repair shop and assembly line. MANMAN is in some ways very similar to Manufacturing Management, MANMAN is its integration," he added.

After six years in Europe, the U.K. constitutes approximately 80 percent of ASK's business, followed by Germany and Holland, says Joan Willington, ASK's former partners program manager for Europe. ASK's success in the U.K. is due to its partnership with HP, which owns 10 percent of ASK and assumes 50 percent of ASK's marketing budget.

"We've been very successful in the U.K. islands with our joint marketing program," says Willington. "Over the last fiscal year, ended at the end of June, we had 340 leads from our various joint programs with HP. We've already had one sale, which is good considering our normal sales cycle is nine months, and we have quite a few more near the top of the funnel."

Says Alan Kember, VAR communications and marketing manager at HP U.K., "ASK came out on top of our analysis for all HP U.K. partners and their marketing strategy. They are by far the most active in the U.K."

ASK has been busy lately trying to boost its presence in other parts of Europe as well. First, it is fusing its operations with Ingres, which it bought two and a half years ago. "This should help in France, Germany and Holland where we didn't have a critical mass," Willington says.

In the last few months, ASK has also signed VARs in Spain (Ibermatica), Belgium (Delaware Computing) and Scandinavia (ENATOR). Willington says the company is still looking for a VAR in Italy so that it will be able to provide an Italian version of its new UNIX-based MANMAN/X, probably in 1994. Ibermatica has already been employed to undertake the Spanish version. "We only do translations with the VARs because they understand the use of the language better than we do and they know all of the quirky legal requirements," says Willington.

For its part, Delaware Computing will be trying to carve out a market for MANMAN/X. Although MANMAN/X still lacks some of the specific functions found in MANMAN Classic, Laurent Besbrugge, the Delaware's sales director, believes his company will be able to make the product a leader because of a "huge demand" for high-calibre UNIX-based manufacturing solutions.—*Marsha Johnston, International Editor*

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A Pension For Europe

Informix Helps U.K. Actuary Double Valuations

"Worldwide, HP systems represent Informix' number one platform in terms of sales by value."

A new implementation of an Informix-based pension valuation system on HP 9000/700s has made Bacon & Woodrow (B&W) — the U.K.'s largest independent firm of actuaries — twice as quick in computing its pension valuations.

Actuarial valuations of pension schemes are computed at B&W using its MVP system which was written by B&W and a third-party software house in the U.K. It was written using Informix-OnLine databases and contains an expert system written in Prolog, which captures the rules of the pension scheme and the benefits to which the scheme members are entitled.

A customized C program is generated by the system for each valuation run, which crunches the numbers for that scheme valuation. The C program was initially designed to run on the HP 9000/852s, but for performance reasons, B&W ported it to the HP 9000/700s, says Brian Hague, IT account manager at B&W in Epsom, U.K.

According to Hague, B&W uses the Informix-Star distributed database and HP's TaskBroker, that "works out which 700 is available, parcels out the work and the communication back to the [Informix] database via Informix-Star and Informix-Net," in order to effect the export.

Subsequently, B&W designated a "more sophisticated" implementation of MVP by "slicing up the generated C program" more finely to run on the HP 9000/700s in a multitasking, parallel processing mode," he says. "As a result, we're running 100 times faster than we were prior to our use of the [HP 9000/]700s and about 10 to 15 times faster than the non-multitasking version of the C program on the [HP 9000/]700s," he says.

Worldwide, HP systems represent Informix' number one platform in terms of sales by value. Also, it is among the top three OEMs in Europe, with approximately 25 percent, or $25 million, of European sales, says Laurent Gampel, Informix' director of development and planning for Europe, the Middle East and Africa.

Gampel explains that HP is obligated to take a backseat "in the five markets where we have national OEMs that are number one — Olivetti, Equipment Enterprise (formally Philips Information Systems)." In Germany, for example, HP accounts for 33 percent of sales.

Nonetheless, other European HP-Informix sites include Agence France Presse, British Telecom Mobile, Reed Personnel Services and Sweden's national health care system.

With offices in all major European cities and 450 employees, Informix counted $115 million revenue from Europe in 1992, which represents 42 percent of total sales. International Data Corp. says Informix commands 42 percent of the European market for units. But, only about 20 percent by revenue only figures, because of its discounts to channels.

One of the most important pieces of the Informix-HP relationship in Europe is the two companies' collaboration with German software applications giant SAP AG, Gampel says. SAP, which is one of Informix' largest VARs, chose to integrate the OnLine database server into R/3, the client-server version of its business management application. "SAP was seeing Oracle as a threat and couldn't get quite right the client-server technology on V.7 of R/3, so they chose OnLine." Gampel says. "In June 1992, we signed a worldwide agreement with SAP and we put teams into Waldorf [Germany] with SAP and HP to do the development. It's in beta-test now and should ship in September." — *Marsha Johnston, International Editor*

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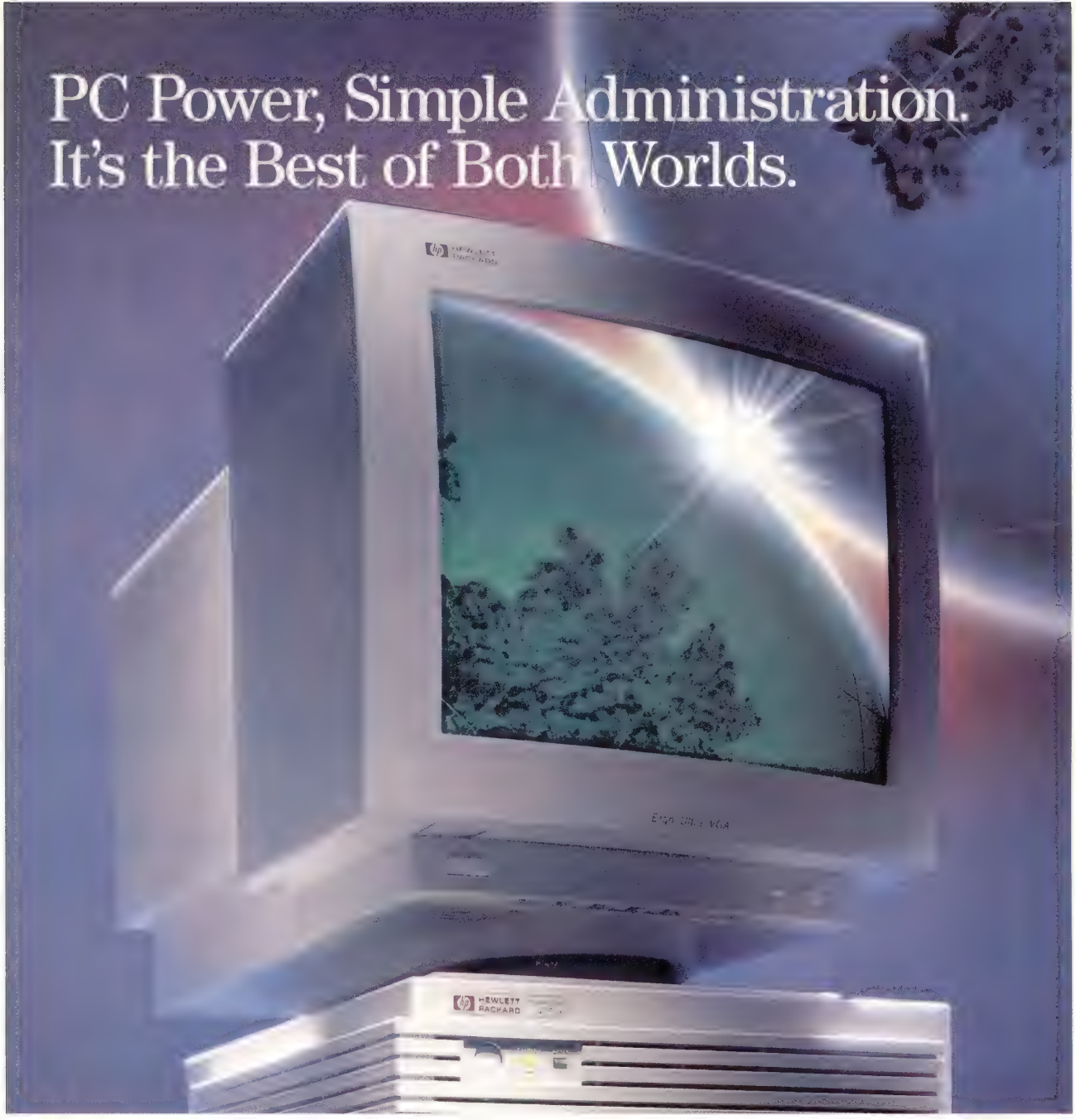

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2 a. Does your development tool make it easy to build complex applications? ☐ Yes ☐ No

b. If you answered yes, does your development tool have built-in "application models" and predefined business constructs to eliminate the tedious and time-consuming coding process? (Hint: Only PowerHouse has them.) ☐ No ☐ N

3 Does your development software provide an integrated desktop environment for the industry's leading end-user tools, PowerPlay® and Impromptu, which, we might add, are coincidentally also designed by Cognos®? ☐ Yes ☐ I wish

4 Does your development tool let you build applications that outlive their environment so you don't have to waste about a zillion hours you don't really have to begin with, rewriting applications every time some new operating system or database comes along? ☐ Yes ☐ No, once again

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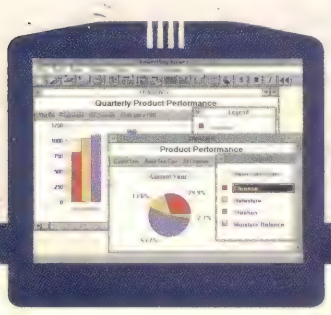
5 Can your development tool build terminal applications that can later be migrated to Windows so you don't have to waste a zillion hours you don't have to begin with, rewriting . . . well, you know the story.

☐ Yes and I have a bridge to sell you. ☐ No

6 Is your development software portable across proprietary and open systems, supporting all major commercial UNIX and midrange platforms? ☐ Yes ☐ No, and I hope that I'm getting closer to that 800 number so I can place an order for PowerHouse already.



7 Do you realize that without PowerHouse, you will probably never be able to keep up with your current workload, let alone eliminate that three to four year average backlog of application development requests? (Rhetorical question)

8 Can you possibly resist finding out more about PowerHouse, the industry's best tool for your complex client-server applications? ☐ No, I can't resist. I am going to call 1-800-4 COGNOS, x81 as soon as I possibly can. ☐ Yes, I can resist. Sitting in front of the computer screen all those extra hours has finally affected my reasoning skills.

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Objects, Objects, Every

BY PAULA JACOBS and GEORGE A. THOMPSON

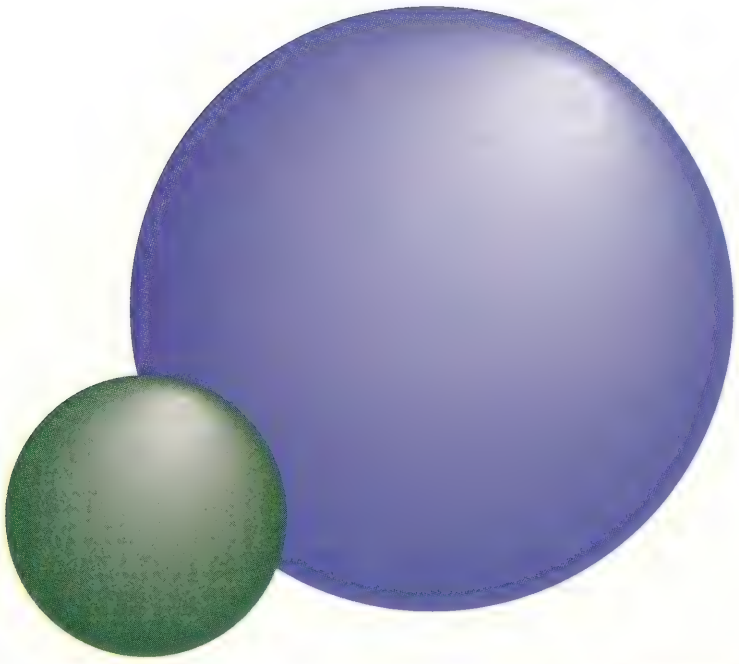
At Santa Clara University, they are using it to build a front-end object information engineering system for use in modeling and high-level decision making. At the Massachusetts Institute of Technology, it's being applied to the Human Genome Project. At the State University of New York (SUNY), they are building an automated, multimedia library with it.

What is it? Simply stated, it's object-oriented database management systems (ODBMS). ODBMSs are one of the hot technology topics for the '90s — and getting hotter. But remember when Artificial Intelligence (AI) was going to take over the world? Will ODBMSs, like the AI research of yore, become just another broken intellectual vision?

Not if Hewlett-Packard has its way. HP believes that by the end of the '90s, "object-oriented technology will be seen as one of the most important breakthroughs in the computer industry." And HP, in cooperation with some of its competitors, is practicing what it preaches.

In October 1991, HP announced OpenODB, its object-oriented database technology. With OpenODB, multimedia applications using sound, complex graphics and video can easily be created and managed over an enterprise-wide network. But OpenODB is only one part of HP's Distributed Object-Computing Framework, its overall strategic vision for how computing will be done in the future.

Officially announced by HP in July 1992, "it's one means toward distributed computing," says Mike Mathews, HP's prod-



where

HP Brings Object Technology and Distributed Computing Together

uct marketing manager for HP's Distributed Computing Program. "It allows access to distributed resources within client-server or peer-to-peer environments."

Certainly users can choose from a broad range of database management solutions on the HP platform. These range from single-vendor HP solutions such as Informix, Sybase, Ingres and Oracle. So, if you've already made a significant investment in one or more of these, aren't you complicating the scenario by introducing object-oriented database management tools?

No, not necessarily.

For the right application, ODBMSs, and OpenODB in particular, can offer significant benefits. OpenODB combines both object-oriented and relational database technologies. While an object manager provides flexible and definable data types, HP's ALLBASE/SQL relational database provides the data storage and is transparent to the application developer as well as the end user. "ODB stores both code and data. And it also provides the same backup and roll-back features as a relational system," explains Mathews. Consequently, OpenODB can be considered for mission-critical applications.

OpenODB includes a procedural language called OSQL (object-oriented structured query language), a superset of standard SQL. With OSQL you can use legacy data (which can be left where it is) by including it as objects in OpenODB. Your current applications can therefore be enhanced to include complex data types, Binary Large Objects or BLOBS as they are called by programmers, like voice, images and video.

Such multimedia applications can be written in any language

linked with C or C++ including COBOL, FORTRAN, Pascal or Smalltalk. In February 1993, HP introduced HP Distributed Smalltalk, an object-oriented programming (OOP) language that adheres to the OMG's CORBA 1.1 specification. Distributed Smalltalk lets software programmers develop distributed object-oriented applications.

Although retraining of procedural programmers is a problem in some MIS shops, there is a flip side to the coin. Many MIS managers report that recent college graduates, schooled in C, are driving them to investigate the merits of C++ and Smalltalk as superior to procedural programming methods. According to HP, some customers report that writing new applications is 60 percent faster.

Further aiding and abetting software development is HP's C++ SoftBench. Using SoftBench, which supports over 70 third-party tools, developers can convert other tools and utilities into encapsulated objects. Embedded SQL support, in addition to providing access to ALLBASE, provides access to Oracle, Informix and Sybase databases within client-server designs.

In April 1993, HP introduced SoftBench 3.2 which includes a task-automation tool called the Message Connector. Without writing code, developers can simply display and connect objects via a point-and-click interface. C++ SoftBench 3.2 will initially run on Solaris 2.1 from SunSoft. C++ SoftBench 3.1, the previous version, already runs on HP, Sun and IBM hardware.

In June 1993, HP, IBM and SunSoft continued their cooperation by working together to support common distributed object interfaces across each other's respective object-oriented software platforms — HP's Distributed Object Management Facility (DOMF) IBM's SOMobjects and SunSoft's Distributed Objects Everywhere (DOE). Compliant with the CORBA 1.1 spec, such common interfaces will provide software portability across all three vendors' systems.

Getting Around

BUT THE SUCCESS OF distributed object-oriented systems will not only depend on accessing different hardware platforms but also on "transparent access" or how well requests for object services can be performed. HP's implementation of CORBA known as the Distributed Object Management Facility (DOMF) provides the necessary distributed services to reach that goal.

Built on the OSF's Distributed Computing Environment (DCE), "it's the central messaging infrastructure through which all the other frameworks will communicate," says Mathews. He explains the concept this way: "It's like a telephone and area code, actually more like a cellular telephone."

In June 1993, HP agreed to integrate DOMF with IBM's Distributed System Object Model (DSOM). This collaboration will

CHOOSING THE RIGHT ODBMS

OpenODB, first shipped in December 1991, is available on HP 9000 Series 300, 400 and HP Apollo Series 700 workstations and HP 9000 Series 800 and HP 3000 Series 900 business systems and servers. Client software also will be supported using X terminals.

But just how do you select the right ODBMS? Is it just a matter of personal preference and pocketbook? Most experts recommend that users evaluate at least two products in-house and run some small programs. Although at first glance they may appear equal, there are significant, long term differences.

Grant Colley of Grant P. Colley Associates, a Massachusetts-based consulting firm specializing in object-oriented systems development, provides a checklist of questions to ask when selecting an ODBMS.

- Is your transaction model a highly concurrent situation, with a large number of data entry operators?
- Is the product designed for standalone or work group computing environments?
- Can you perform access at the object level or only with clusters?
- Does the data model require access in navigational mode (follow pointers to cross from one data structure to an other) or randomly, such as by social security number?
- Is your data model based on a collection of objects (e.g., wheel of bicycle as collection of spokes)?
- Will you need to add devices and objects on a network?
- And what about nested transactions and performance tuning capabilities? Does your organization have unique data management requirements, such as custom read/write or different standards throughout the organization?

Other important considerations should also include: database recovery functionality, query language capability, security features, compatibility with C++, ease of writing code, database functionality and portability across platforms. And of course, because one objective is increased productivity, make sure that the GUI is truly intuitive and easy to use.

Before you invest in a system, enroll in training courses so that you can evaluate and use the systems properly. And, by all means, don't undertake a major project until you have successfully used your system on some smaller, discrete projects. The bottom line is that you want a system that provides all the basic DBMS functionality, plus all the new capabilities you require.

Today, there are several object-oriented database management systems on the market. Each has its individual strengths, both in terms of functionality, performance and target applications. There's no "one-size-fits-all," but there is certainly a product to fit your needs. — *Paula Jacobs*

result in a common object management system allowing interoperability between objects on AIX, OS/2 and HP-UX platforms.

Managing distributed objects across an enterprise is no easy task. HP's OpenView, part of the system and network management framework, fills the bill. Based on half of the OSF's Distributed Management Environment (DME), OpenView provides a common view of system resources. "It provides the proper security, and makes sure that the proper people are notified when they need to be," says Mathews.

Objects Of Desire

SO FAR, THAT'S ALL FINE for programmers and ISVs, but how about end users? How easy will it be for everyday users to take advantage of all the objects of their desire?

According to Mathews, the three goals for the end-user framework "was to make it work in the same way, behave in the same way and to meet users expectations. You have to provide consistent underlying behavior."

That's where HP's Visual User Environment (HP VUE) comes in. HP VUE is a graphical user interface (GUI) based on X Window System version 11 and the OSF/Motif specifications. As the "productization of Motif," HP VUE is the basis for COSE's Common Desktop Environment (CDE). It includes a point-and-click interface with pull-down menus and dialog boxes. "Like with a car's gas pedal, steering wheel or brakes, we wanted a common drivability, where you don't get any surprises," explains Mathews.

Accelerating Through The '90s

IT ALSO SHOULDN'T BE surprising to discover that Mathews expects, "by the second half of 1996, you'll start to see widespread adoption [of distributed object-oriented computing] similar to the uptake in Windows." He has reasons to be optimistic: At SUNY, Tom Hassler, director of Information Services, is building an automated library system storing images, sound and animation using HP's OpenODB.

Corporations rushing to re-engineer their business should take note that Mathews thinks that distributed object-oriented technology will also be fundamental to business competitiveness. Some pioneering companies apparently agree. HP also counts Chrysler Corp. and Florida Power and Light among its object technology users.

In the future, distributed object-oriented technology will bring a fundamental shift to the way we work with computers. "Now you need to be computer-literate." With distributed object-oriented computing, "you'll need to be information-literate." Mathews says.

In other words, rather than knowing how to operate a computer, you will merely need to know what information you are looking for. SUNY's OpenODB project is a good example.

Its goal, according to SUNY's Hassler, is to create a "scholar's workbench" giving users a single window to all the information and data resources so that is available for students whether the information is on SUNY's campuses or 5,000 miles away. Currently, students need to access three different terminals; one for bibliographic records, another for CD-ROMS and still another for online databases.

Actually the SUNY project can be seen as part of a trend directly influenced by distributed object-oriented systems or frameworks such as HP's. Ultimately Mathews thinks the operation will be so seamless that finding and retrieving information "will be determined only by your rights to access and your ability to pay." —*Paula Jacobs is a marketing consultant and writer based in Framingham, Massachusetts. She can be reached at* pjacobsworld.std.com. *George Thompson is HP Professional's Technical Editor.*

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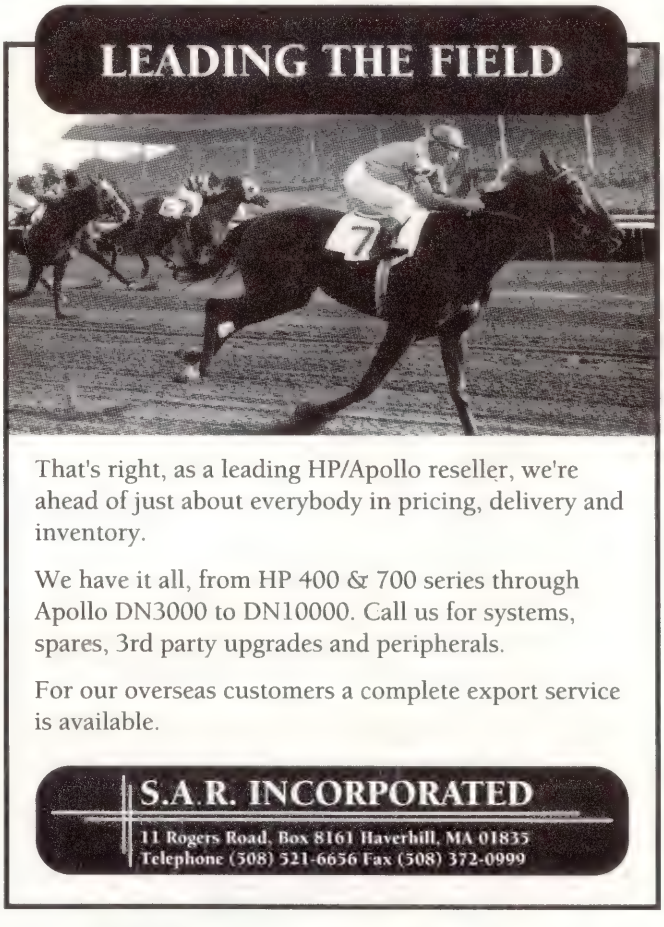

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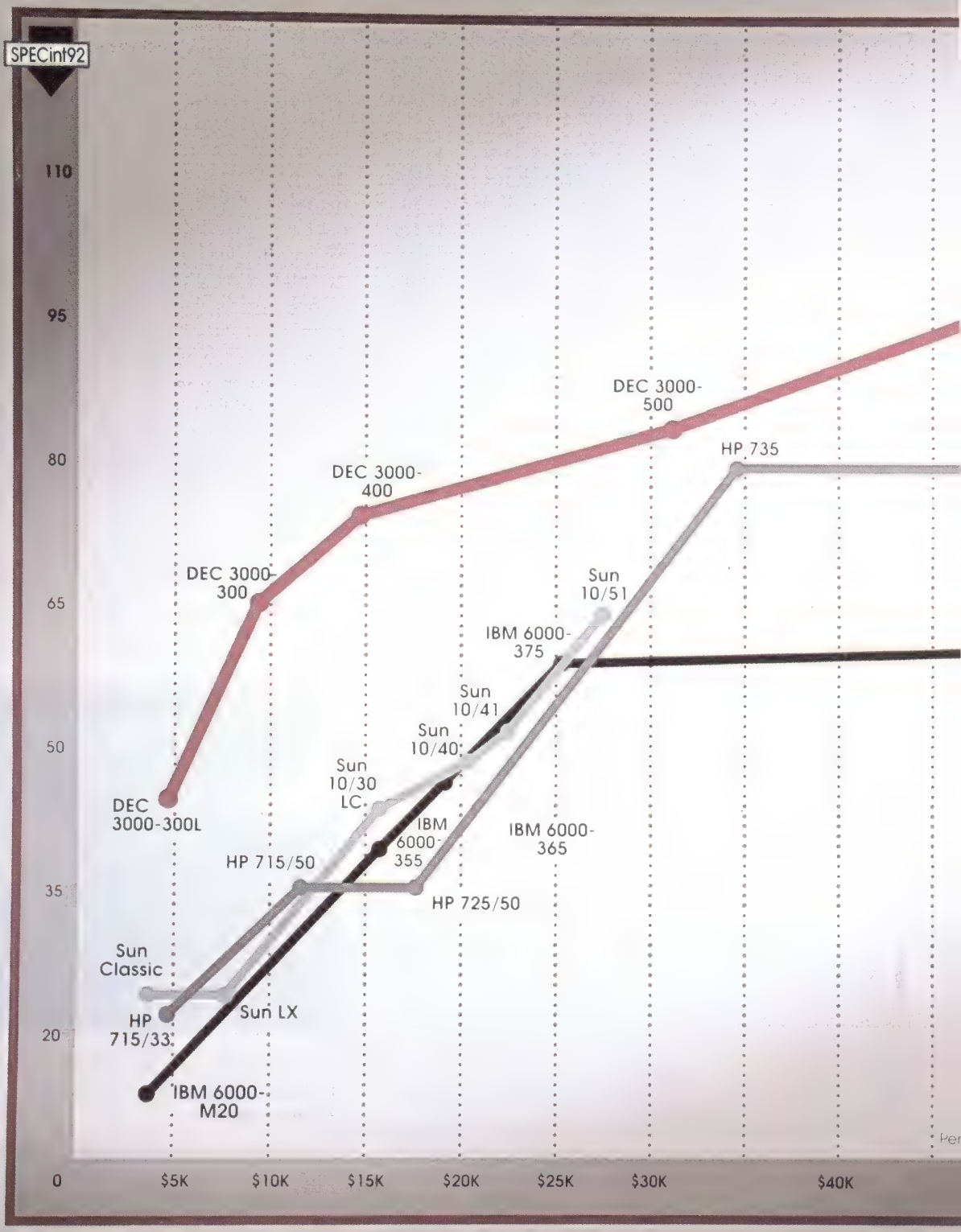

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Distributed processing offers many potential benefits. More modular than a traditional centralized approach, it lets you put the horsepower where you need it, add capacity and make changes in smaller, more manageable increments. By spreading the data around, a well-designed distributed system also can help minimize downtime. Consequently, a network hit or CPU problem doesn't have to affect the entire operation. Last but not least, distributed processing puts computing power in the hands of the people who use it most.

But every silver lining has a cloud. For every advantage provided by distributed processing, there's a corresponding rat-hole to fall into. Synchronizing databases on different systems, maintaining data integrity and keeping track of where everything is, can be a daunting task requiring specialized tools.

BY GORDON MCLACHLAN

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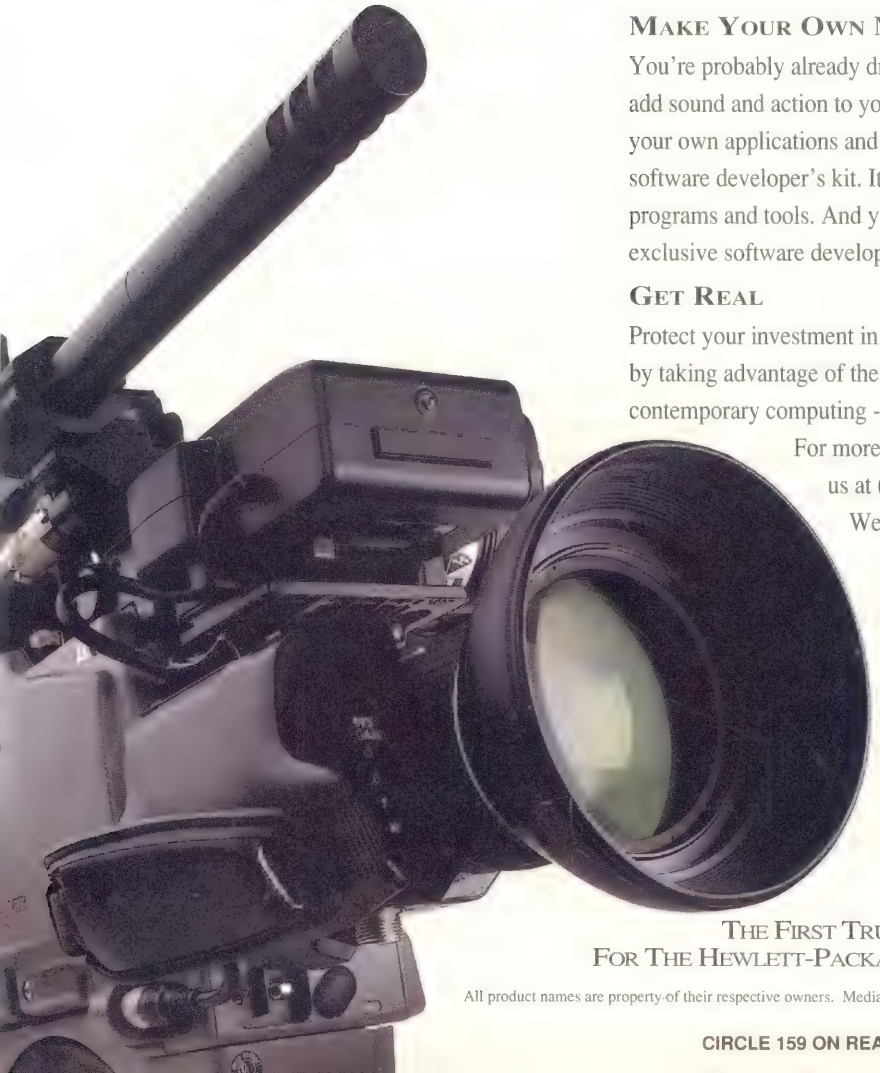

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HP recently unveiled a pair of product offerings — the Encina/9000 distributed online transaction processing (OLTP) monitor and the OpenWarehouse data repository — that are both aimed at the problem of data management in a multi-vendor, distributed environment, but come at it from totally different directions.

Two Roads Converge

OLTP IS THE CORNERSTONE of most information systems. Not surprisingly, data integrity is the most important requirement for an OLTP application. To insure data integrity, OLTP systems must provide reliable methods for grouping related database operations into logical transactions: well-defined beginning and ending points, transaction sequencing and record-locking mechanisms to keep database updates from conflicting, and a way to roll back transactions to recover from problems.

This is complicated enough when you're only worried about a single database on one machine. Add multiple databases and a network to separate them, and you've got real problems. That's where distributed OLTP monitors like Encina come in.

HP's Encina/9000 is designed to coordinate transactions among heterogeneous, distributed databases in a multi-vendor networked environment. Developed by Transarc Corp. (Pittsburgh, Pa.), Encina is built on top of the Open Software Foundation's Distributed Computing Environment (DCE) providing security, remote procedure call capabilities, network naming and directory services, and time synchronization.

HP's offering consists of four components: the Encina/9000 Server; Encina/9000 Client; Encina/9000 Monitor; and the Encina/9000 PPC Executive.

The Encina/9000 Server provides data integrity through its transaction logging, locking and rollback/recovery features. The server supports the necessary two-phase commit protocol needed to keep updates of multiple databases in sync.

HP's Encina/9000 Client provides application programming hooks via transactional remote procedure calls and transactional C libraries. HP currently provides client software only for HP-UX clients.

The Encina/9000 Monitor performs scheduling, queuing and load-balancing of transactions. It also includes a VSAM-like file system known as the Structured File Server.

The PPC Executive allows Encina-based applications to communicate with non-DCE database servers using IBM's industry-standard Common Programming Interface-Communications (CPI-C) transaction protocol over TCP/IP.

A fifth component will become available later this year, when HP rolls out its CICS/9000 Monitor, which lets client programs using IBM's CICS interface run with Encina/DCE.

Encina follows the X/Open Consortium's XA distributed processing interface specification, allowing it to work with any XA-compliant database management system (DBMS). However, Encina is not a panacea. One of its most glaring shortfalls is its lack of DOS, Windows or Macintosh client support. Still, it goes a long way toward advancing the state of the art, and showing what is possible.

Whereas operational systems survive on their daily ration of individual transactions, historical data is the fodder on which decision support systems feed.

But OLTP isn't the only data management problem presented by distributed systems. While OLTP is the backbone of the "operational" systems that we use for running the business day-to-day, there's another category of application that puts a different spin on things.

Decision support systems (DSS), used for analysis and strategic decision-making, have unique requirements which may not be fulfilled properly by an OLTP system. Broadly speaking, "front-end" tools for decision support systems can be anything from shrink-wrapped spreadsheet and presentation graphics programs, to highly sophisticated statistical analysis and forecasting systems. Where operational systems survive on their daily ration of individual transactions and up-to-the-minute information, historical data is the fodder on which decision support systems feed. As we shall see, managing historical data for decision support systems is entirely different than managing an OLTP system. That's where the data warehouse comes in.

Stocking The Warehouse

OPENWAREHOUSE — which is actually an assemblage of products and consulting services from a group of vendors — is designed to provide a centralized, subject-oriented repository of historical data about your company for the use of managers and departmental analysts.

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CIRCLE 499 ON READER CARD

Products in the HP OpenWarehouse family include Red Brick Warehouse from Red Brick Systems, Prism Warehouse Manager from Prism Solutions, Extract from Evolutionary Technologies, Enterprise Data Access/SQL from Information Builders, Open Development Environment from Open Environment and HP's Information Access.

Red Brick Warehouse is a software-based "query accelerator" that boosts query performance by up to a factor of 10. Red Brick Warehouse transfers data from relational source databases to a specially indexed central data repository with extensions to the Structured Query Language (SQL) that support decision-support tasks better than standard SQL.

The Prism Warehouse Manager is an interesting piece of work that extracts data from sequential or indexed files, puts it into target databases like DB2, Sybase, Oracle or Red Brick, generates code to handle data transformation and keeps metadata (data about the data) to describe where the information came from, what got done to it and where it went.

The other products included in OpenWarehouse are front-end tools that let users extract, report and analyze data. In the future, the OpenWarehouse will also include support for HP's OpenODB object-oriented DBMS.

Data Is Data, Isn't It?

AT FIRST GLANCE, THE data warehouse concept seems like a throwback to the mainframe era. A data warehouse is just a large, centralized collection or data store of historical data. And aren't huge, central databases — exactly the kind of thing that client-server systems and distributed OLTP are supposed to save us from?

If you have distributed OLTP capability, you can extract data from multiple networked databases as easily as you can update them. Indeed, the sales pitch from some vendors for their OLTP monitors includes the lure of easier access to data for decision-support systems and reducing data redundancy. Why even bother with a data warehouse?

The answer lies in the fundamental differences between "operational" OLTP systems and decision-support systems, and the data required by each. It's easy to fall into the trap of thinking that "data is data," but these two types of systems have very different needs.

Generally speaking, the data used for OLTP systems is process-oriented, volatile and time-sensitive, while DSS data is subject-oriented, non-volatile and time-variant.

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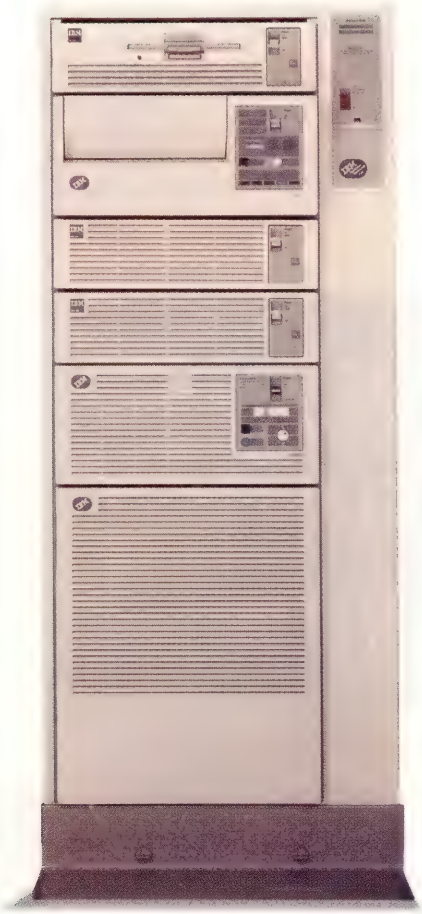

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The operational OLTP data store is structured to model real-life transactions, supporting the day-to-day operation of the business. Data stored in operational OLTP systems is extremely detailed, with tables and keys optimized for fast retrieval and updates in this real-world environment.

The operational data store is also very volatile — it is dynamic, that is, being constantly updated. It is also time-sensitive because data in operational systems disappears when it is no longer applicable for the task at hand. Financial data, for instance is no longer useful after you close the accounting period.

Users of DSS, on the other hand, will want to deal with data gathered from multiple tables or databases, and organized by subjects like customer type, sales region or some other arbitrary classifications that mean nothing to an operational system.

Depending on the analysis required, the historical data in a DSS does not have to be constantly updated — that makes the DSS data store relatively stable. For the most part, this data only has to be updated one time — when it is put into the data warehouse.

Because most historical data in the repository is extracted from operational OLTP systems, it's really a series of snapshots of the data store which is analyzed to see how it varies over time.

In practical terms, the organization of data in the operational data store is optimized for that specific environment, which therefore affects both the availability and accessibility of data to DSS systems.

In many systems, if you want last years' sales history for analysis, you'll have to hit the tape backups. Even if you have the data online, you might find that the database is keyed by sales order number, and NOT by sales region or date — the way the analysts want to see it.

This lack of availability and accessibility means that performance of DSS systems suffer badly when they have to feed from the operational store. That's why Red Brick Warehouse creates its own database with an entirely different set of keys.

For the sake of argument, let's assume that the operational store has all the data you need, and that it is properly organized for retrieval by the DSS. Why not use OLTP now? Because the data in the operational data store is almost certainly not integrated the way it needs to be.

Most operational systems have evolved over time. So, very few companies have a single integrated set of operational applications. Data may exist in flat files, indexed files and a variety of different DBMSs. Consequently, there will be

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inconsistencies in the way that data is encoded. For example, fields will have different data types and lengths, use different acronyms or abbreviations for the same information, or use different data formats.

If each of these differences must be manually overcome by an analyst trying to extract and download data for a DSS, that analyst is going to spend a lot of time massaging the data before he or she can do their job.

A tool like Prism Warehouse Manager is designed to automate the extraction of data from a variety of sources, transform it so that it provides a consistent view, and keep track of where it came from and what transformations were done to it.

Combining the power of Prism and Red Brick gives you a single source of data that is consistent, easy to get at and fast to use. It's exactly what the DSS analyst needs to make their life bearable.

What about data redundancy? If data for your DSS comes from the operational store, won't there be a lot of overlap between the two databases?

Actually, this is the least of your problems. The time-sensitivity of OLTP data means that the amount of overlap will be small when measured against the size of the entire historical database. Also, over time, detailed data loses its usefulness to both the operational store and to the data warehouse, so it will either be flushed or rolled to near- or off-line storage like optical disk or tape, further reducing redundancy.

The moral of the story, is that you should use the right tools for the job. When all you have is a hammer, everything starts looking like a nail. Fortunately we've got more in our toolkit now than an OLTP mallet. Now all we need is a little MORE POWER!

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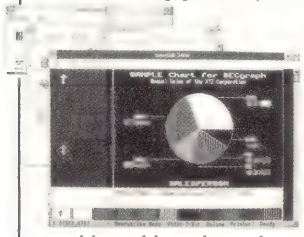

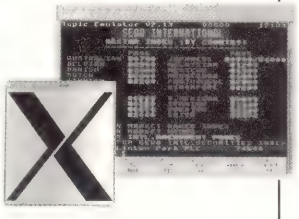

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Help On The HORIZON

Consultants Can Save You Time And Money, But Only If You Enlist Their Help

MIS is surrounded. Angry users are calling and shrieking about delayed and lost jobs, while management is sending in a S.W.A.T. team of glass cutters to break into the air conditioned confines of your department and have "discussions" about maintenance costs. All you've done is try to keep them all happy, and now they want to make their points with a cattle prod.

You've exhausted your resources trying to find and resolve the problems and you're ready to give up. Marilyn walks up and asks the question you were waiting for: "Don't you think it's time to call a consultant?"

Calling in a consultant is not the first or even the second choice for many, especially HP users who are more self-reliant than most, but as a last resort. You call a consultant when all else fails. But like nearly everything else in the computer marketplace, this is changing.

Jim Hepler, senior technical consultant with the Mainframe Alternative Practice in HP's Professional Services Organization, sees HP users calling sooner rather than later as well as more often for consulting. "HP customers are growing bigger and using consulting sooner," says Hepler. "Their need for consulting is growing as systems become larger."

A few years back, some companies didn't call in consultants until they were in dire straits. Hepler recalls an automotive company where a system was so overloaded that payroll checks were

BY BILL SHARP

issued late for several pay periods. Furious workers walked off the job. The three-day plant shutdown caused by the strike cost $3.6 million while the upgrade MIS needed cost $80,000. Failure to call for help at the beginning resulted in an upgrade that was extraordinarily expensive.

As computer systems become larger and more sophisticated it is more difficult to optimize system performance without well-qualified help. Some well-heeled companies can afford to have such a person on staff, other firms must hire consultants. But according to Hepler, "hiring help is not enough by itself." He says the single biggest mistake is too little planning. "Don't just do something without a plan. The key thing is to plan, and after you plan, plan again."

Managers with systems of any size are increasingly using consulting as a tool before problems get out of control. This, together with HP's growth in the computer market, has expanded the size of HP's consulting business, the Professional Services Organization. Hepler notes that HP consistently shows up in Top 10 lists of U.S. computer consulting firms, and says HP's growth in the market has been about 30 percent per year.

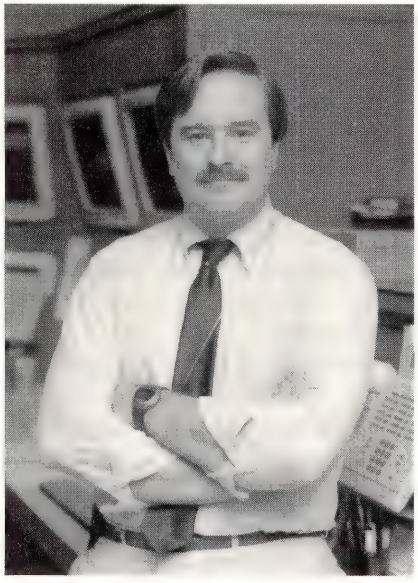
Feeding the growth is a gradual evolution in the approach companies use when dealing with their computing issues. Hepler finds companies generally proceed through four phases of dealing with performance management:

Phase 1 — Reactionary

During the first few years of computer use, companies don't often plan or budget for additional computer purchases or system expansion and have only a vague idea of when growth will create problems. When user complaints reach a crescendo, as at the automotive firm mentioned above, the firm searches frantically for help, often turning to a consultant. Companies may learn from their first crisis, or may repeat this cycle endlessly.

Phase 2 — Recognition

Once MIS recognizes that some monitoring of computer systems will improve their performance, they persuade management to allow the purchase of limited monitoring tools. Management tends to expect MIS to solve its problems with no further expenditures. Growth or conflicting needs then create some crises. Hepler has clients who, before turning to consulting, made unnecessary memory or upgrade purchases when the performance problem lay elsewhere. Therefore, consulting has a role in finding or verifying solutions to problems as well.



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Phase 3 — Planning and Policy

MIS or the user community finally recognizes the need for an ongoing strategy to meet user needs and control costs. This is generally a midrange or larger system with a large enough user community to force improvements. Consultants help with quarterly utilization reports, to resolve persistent problems or do some capacity planning.

Phase 4 — Service Level

Performance and system management are ongoing concerns, with monthly reports on usage and optimization. Ongoing review efforts plan for future computer use and new services, and ties these plans to other segments of the company. Capacity planning is a regular function for consultants at this level.

Once a company makes regular use of consulting, it can take preventative action. Joel Anderson, assistant director of IS for Blodgett Memorial Hospital (Grand Rapids, Mich.), worked with Jim Hepler before. Anderson called Hepler because of performance degradation that left him unclear about whether the system needed more memory, a different disk drive configuration or a full upgrade. At the time, says Anderson, "Bringing in Hepler was the fastest way to get a result. He had access to LaserRX, which we had not bought, and the training to make use of it to come up with a recommendation. If we had it to do over again and had more time, we would buy LaserRX and get the training to do it ourselves."

Hepler recommended that memory be added and some disk drive changes be made, enabling the hospital to refrain from an upgrade for roughly 12 months. "It's hard to estimate the savings," says Anderson, "But we gained by being able to take advantage of falling hardware prices on new systems." He estimates that the consulting which cost about $8,000 will end up saving the hospital hundreds of thousands of dollars.

No matter what phase you are in Hepler's performance management cycle, several types of consulting services are available from HP or from a third-party consulting firm.

Smaller companies in phases one or two generally benefit from problem diagnosis and system tuning, which is a one-time visit to identify or verify a problem and help fix it. One HP client bought $3,600 of consulting in two separate visits over several months and was able to cancel a memory purchase and delay a system upgrade, saving $90,000 over 18 months while gaining time to plan effectively for eventual upgrade costs. System Management, which is an ongoing measurement of system use to forecast growth and applications needs is another type of consulting often used. Defining computer resources adequate to meet future needs of the customer through capacity planning helps delay purchases where possible and thereby reduces costs. Consultants also perform application optimization which involves improving performance of applications using the most computer system resources, again with an eye to delay upgrades or reduce maintenance costs.Another task involves networked performance whichidentifies and eliminates networking bottlenecks that impede system performance entirely apart from the computers themselves. Finally, consultants assist with product implementation by helping with installation and training when you add a new product to the computer system.

Of course, you don't get good help for nothing. Computer consultants typically charge upwards of $130 per hour. HP's rates start at $140 per hour and range up to $450 per hour, says Hepler. About the smallest consulting price tag you'll see will be in the $500 range for two or three hours of troubleshooting. The high end, for projects such as migrating multiple critical applications from a mainframe to client-server systems, may take a year or more and go for $1 million and up, with HP acting as a systems integrator and managing the entire process.

Even at the high end, these projects can mean big savings for customers. A multi-million-dollar job moving off of a mainframe may save many millions over staying with the big-iron solution. The best way to determine acceptable costs for you is to weigh the cost of consulting against the costs of proceeding without that consulting. Hepler advises that if the political or financial risks of moving ahead without consulting to back you up is high, then buy the consulting.

Hepler, like others in this field, divides the types of computer system downsizing or restructuring tasks into several types:

- **Transfer** — Simple move of an application from one computer system to another. In many cases, applications that run on several types of computers move with minimal fuss. Bring white gloves and a wrench just in case.
- **Replacement** — Throw the old stuff out and move in the new stuff, hopefully off the shelf. This may provide improved performance from fancy new goodies, along with the delightful release of torching the old stuff and watching it burn. Bring matches and marshmallows.
- **Conversion** — This is not exactly a religious experience, but more like a trip to the laundromat. Maybe you are moving to a C language version with a slick new GUI. Software is often available to make this conversion, as long as somebody stands alongside to flatten out the wrinkles that come through the wash unchanged. Depending on how well this is done it can speed up processing or slow it down. Bring plenty of spray starch.
- **Rewrite** — Back up your wallet and prepare to unload. This solution gets expensive, but can yield improvements and customization not available with other solutions. Bring smelling salts for the faint of heart.
- **Surround** — This is the Wizard of Oz solution. We keep the mainframe wizard out of sight, add smoke and mirrors to make him look really good, and agree not to peek behind the curtain. In some cases, trashing the mainframe is just more trouble than it's worth, so we add middleware

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tools, servers and interfaces to give users the capabilities they want and deserve, while preserving the investment. Bring drapery rods and lots of fabric.

But what size should the new CPU be? CPU sizing is the fun part of this equation. You know people are going to ask how to compare systems, and you also know that vendors will do anything short of waltzing a walrus to Pluto to avoid giving a simple and intelligible comparison with competitors. The best solution is to assign a team of 67 extremely analytical types to build a massive spreadsheet full of all the wondrously exciting, but never quite equivalent numbers you can get from all those marketing departments. Have them load all this into a aging 386 system that will proceed to crash every 6.8 minutes unless it has gobs of RAM.

If this becomes tiresome, try agreeing on just a few specs with rigidly equivalent definitions from vendor to vendor. Industry-wide benchmarks, I/O rate, transactions per hour and number of users are useful. Some analytical modeling tools can help simulate the kind of work you will fling at your system and give another view of performance comparisons. And yes, consultants will gladly help with this. The good ones have lots of experience with figuring out sizing dilemmas, and can offer references to prove it.

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PC Tips

Miles B. Kehoe

MS-DOS 6.0 Utility Provides Users With Three Backup Options

Backup To Basics

Although MS-DOS 6.0 has been available now for several months, there are still users who have not upgraded. I use MS-DOS 6.0 on all of my systems at work and at home, and I haven't had any problems at all so far.

As I mentioned before, the one major feature of MS-DOS 6.0 I really appreciate and use is the ability to choose between multiple configurations. Yet another compelling feature in MS-DOS 6.0 is the standard Microsoft Backup utility.

I know, backups can be among the most boring things in the world to do. For years, I would say to myself "I'm a data processing professional, I know the consequences of not doing backups." Then, one sunny Monday morning, my primary drive didn't come up, and surprise! I lost a significant amount of work. If you are responsible for your own system backup, and you value your time, I suggest you get in the habit of doing frequent backups. Microsoft Backup, as part of MS-DOS 6.0, is an ideal candidate.

Based on the Norton Backup utilities from Symantec (Cupertino, Calif.), the Microsoft Backup program lets you perform backups within MS-DOS or Windows, with native interfaces for each. Perhaps one of the most convenient features is the ability to backup not only to a floppy drive, but to any valid disk or directory on your system. Thus, you can use external cartridge disk drives and even networked drives for backup.

Take Your Pick

Microsoft Backup provides three different backup options, letting you pick the one that is right for you. The first option, on which both other backup options, are based, is called a Full Backup. To perform a Full Backup, select the files and directories to be included, then Backup copies tagged files to the selected backup device.

Backup can compress the files as it copies them to the backup device to help minimize space requirements. Backup also can verify backup files — an option you'd be smart to use.

The second option is called a Differential Backup, which only makes copies of the files that have changed since the last Full Backup. By using a Differential Backup, your backup sets reflect all of the recent changes. To restore lost files or directories, the most recent Full Backup and Differential Backup sets are needed.

Finally, you can use an Incremental Backup, which creates copies of the files that have changed since the last Full *or* Incremental Backup. An Incremental Backup set builds on all of the previous incremental sets. To restore files or directories, the most recent Full Backup set as well as each Incremental Backup set is needed.

The Full Backup is required for both other options, but doing a full backup every time can take a large amount of disk space, and may take more time each day than you can afford to give up. However, a Full Backup set contains everything you need to restore, so maintaining different sets of backup media wouldn't be necessary.

Differential Backups will normally require less space than full backups, but each set will be a little larger than the previous one as more files are modified over time. Still, if you work with the same set of files every day, a Differential Backup might be the best option.

Incremental Backup sets don't require as much storage space as differential sets because only the files that have changed since the last Incremental Backup are saved in each new set. In the long run, however, it takes longer to restore files from an incremental set because you have to scan each incremental set since the last Full Backup in sequence.

Incremental Backup sets do maintain different versions of the backed up files, so it is easier to reconstruct changes to a document over time. If you change a number of different files every day, Incremental Backup is probably for you.

Regardless of which method you use, a nice touch in Microsoft Backup is the ability to restore files either in their original directories, or to a different drive or directory. This is handy if you have some good data files in your working directory and you want to compare the current files with those on the backup set.

How Often is Enough?

People often ask how frequently they should backup their data, and there isn't one correct answer. Some people do Full Backups every month and incremental or differential sets every week, while others do Full Backups weekly and incremental or differential sets daily. I usually tell those who ask, that it depends on how much you have to lose if your hard disk stops working.

For example, sometimes I find myself changing non-critical files for days at a time. At other times, it seems I'm changing dozens of files a day and every change is critical. It's not unusual for me to go for days without a backup, and then find myself backing up my data twice a day in some situations. As long as you label your backup sets, and keep them in a safe place, whatever schedule you think is right will probably be appropriate.

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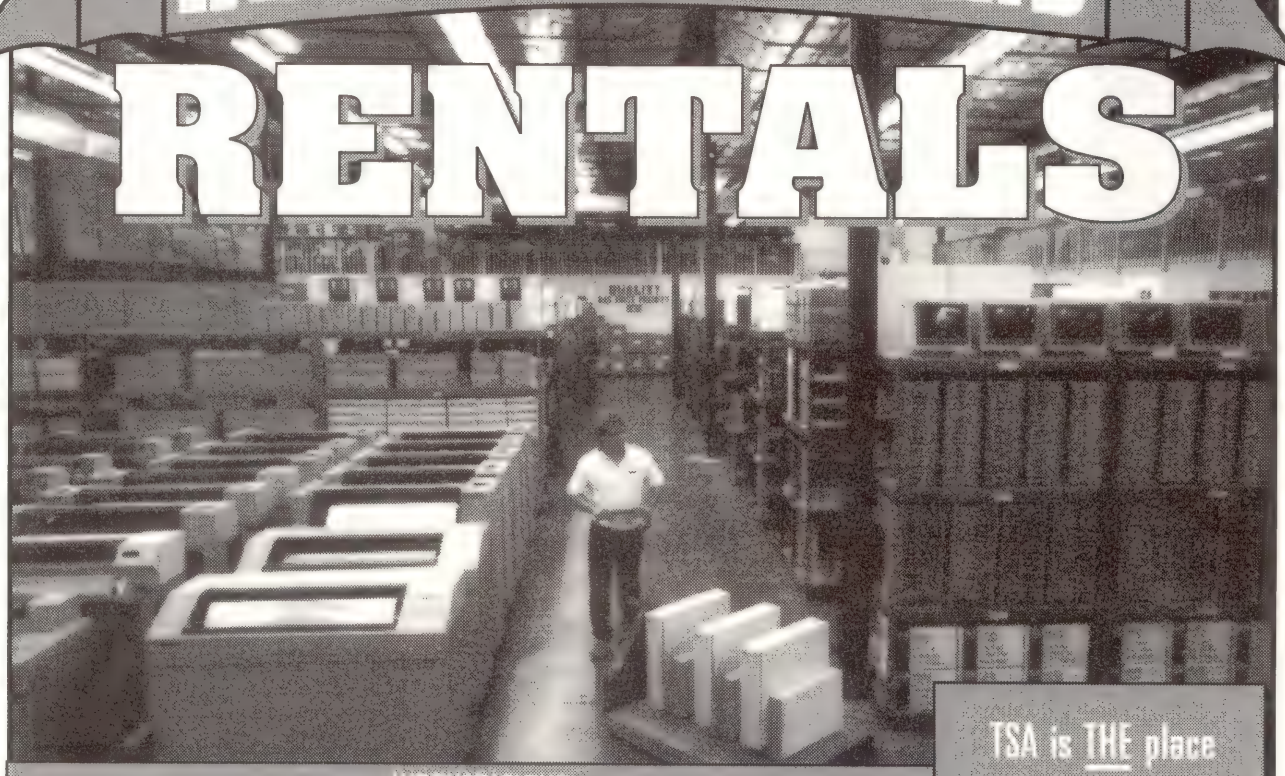

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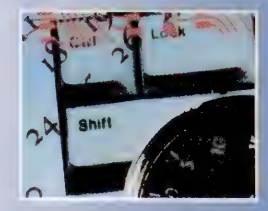

NETWORKING

Tim Calhoon

Miles To Go

Recently, I received quite an education in international communications when I set up a communications link between our U.S. headquarters and a new system in Mexico City, Mexico. The difficulties I encountered taught me several lessons. Hopefully these experiences will help you in planning your next international communications project.

The original system consisted of a modem and a dialup line. Today the requirements are for two to three people to be online during the day.

Setting up a dialup line seems to cause problems for many people. The modem we were using was a Telebit T2500 connected to a serial port on the HP 9000/827 business server. Using Kermit, a single user was allowed to access the host and transfer files as required.

To hook up a modem to an HP 9000 series 800 you will need to have HP cable part number 40233A, which supersedes cable part number 92219Q. The pinout for this cable is straightforward and, of course, this cable has to be hooked up correctly. You need this cable to get a modem to work with the Series 800 serial mux ports. *See Figure 1.*

Once you have the cable you also need to configure the modem. The Hayes modem commands required to configure the modem are, S0=1 to set auto answer to 1 ring, &C1 to set DCD with carrier detect, &S1 to set DSR when modem is ready and &D2 to disconnect modem when DTR drops.

The best program to use for outbound dialing is Kermit. Kermit is supplied with HP-UX and is fairly easy to learn. However the version supplied, 4E-072, is not the best version to use. The latest version, which was released at the end of 1992, is 5A-188. It is available for free over the Internet at most large FTP repositories or from Columbia University. This new version is easier to use, supports more modems and has many other new features.

Lease lines in many countries take from two months to two years to install.

The Kermit setup works well for one person, but other alternatives had to be found for the multi-user requirements. Dialup routers such as the Telebit Netblazers were examined, but the telephone cost to dial Mexico was about $100 per hour. It was even more expensive for the staff in Mexico to call us in the United States. X.25 was the next most logical choice because it is available in most countries.

In looking at X.25 vendors consider several things. First, check if they offer the basic services you require. Just because the vendor sells certain services in the United States does not mean they are available everywhere on their network. We were looking for either a dialup or a lease line host connection. Second, check if they have the speeds you require? Many countries cannot support over 2400 baud dialup or over 9600 baud with a lease line.

Security is another concern. Does the vendor provide any types of security to prevent hackers from accessing your machine? Some X.25 vendors only allow predefined hosts to access your computer system. Other vendors can supply a regional type of security to keep hosts from outside your region out of your system. With any network, regardless of their inherent security, you still have to provide adequate security on your own system.

Cost is always the big issue. Most X.25

FIGURE 1

HP Cable pn#40233A pinout configuration.

	CPU Serial Port		Modem Connection
Pin	1	to	1
	2		3
	3		2
	4		8
	6		20
	7		7
	8		4
	9		22
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vendors group geographic areas into regions. X.25 usage within a region is charged a set usage rate while usage between regions is considered international and is charged a higher rate. Some companies charge a flat hourly rate no matter how many characters you transmit. Other companies charge a smaller hourly rate, but then charge you for every 1,000 characters you transmit. You also may have to pay for other items such as your X.121 address, access port, modems and security features. Be sure you understand all the charges before signing any contract.

Availability is an issue we take for granted here in the United States. Lease lines can be purchased and installed in about a month as a matter of course. Vendors almost always have the ability to get new customers up and running in days. While these same vendors may offer the services you want, in the countries you want them in, it doesn't mean they are immediately available for use. Lease lines in many countries take from two months to two years to install. That assumes you can get one. This is all slowly changing as many of the larger countries, such as Mexico, are updating their telephone systems to digital networks. For now, it's still impossible to enter many countries and get a lease line quickly.

Availability also applies to the services a vendor can supply. Due to the long lead times to get new telephone lines, a vendor may not be able to supply the services you want when you need them. For example, they may run out of lines temporarily. Unless someone else drops their service you may have to wait. Be sure to get a confirmation of service availability from the remote location.

The last item to consider is the equipment you need to install on your system to support your communications. Is the hardware and software available in the country, or will you have to export it from the United States? What is the cost of the equipment if you buy it within the country? Prices can be two to three times higher than U.S. list. If you export it from the United States what paperwork do you need to fill out? How long will it take to get through customs? How much duty will you have to pay? Are there any laws prohibiting the export of the equipment or software? Needless to say, it is a complicated process but one that can be done with some hard work and planning.

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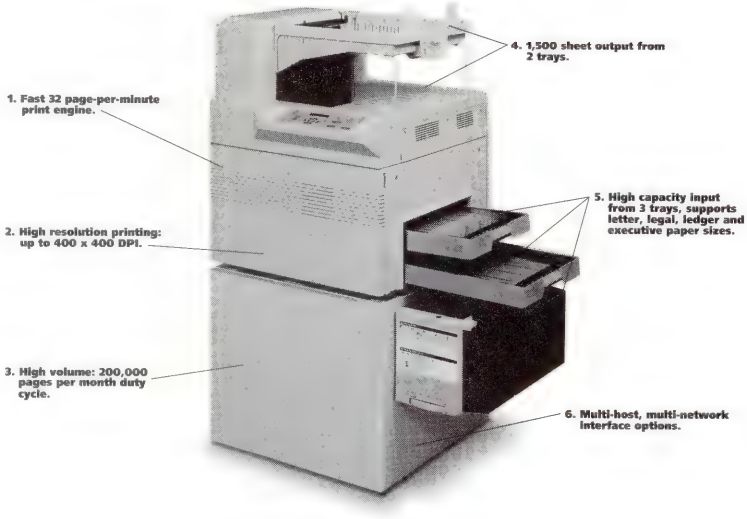

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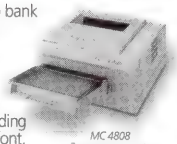

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UNIX SYS_ADMIN

Fred Mallett

Beyond The Resume

OK, SYS_ADMINS and SYS_ADMINETTES, be sure your bosses are out of the room before you read this. Go lock your office door. Get a flashlight and a blanket if your office is a cubicle. This month the technical aspect of administration will be absent.

Instead, I'm going to be telling you about the impressions I get from users about how well their network is administered — not how they think the work is done. After 10 years of training and consulting in UNIX networks, I also have developed my own observational measures of how well a network runs. In other words, there are things I see in common on networks that run well and where the users get their problems solved quickly.

There are several areas that would describe my ideal group. First, there are the managers of the group. Then there is the group leader, communications and dynamics of the group and training.

Leader Of The Pack

Group managers is a topic I'll save for another column. At many sites, the group leader is assigned. Depending on who is assigned, this assignment could be good or bad. At some sites, however, the group leader often just evolves. They are simply the ones who have earned the respect of the rest of the group. This is almost always good, because the right person gets the job. Who is the best person? It almost always is the sharpest software trouble-shooter and problem solver. They also immerse themselves heavily in techno-weanie publications and are always reading the release notes of new revisions and new applications.

The group leader also should be the person other admins bring technical problems to. From the management view, the group leader must perform many administrative tasks, so I suppose responsibility is a key. I hate to admit that, it means I will never get the job.

Among the things that are seldom effective, are rotation of group leaders on a time basis or the "who is in charge this week?" syndrome, and assignment purely on a seniority basis. Another tactic that can start wars is hiring outside for a leader. I'd recommend hiring "another admin," then see if the personality of the new person is appropriate for the leadership position. They can be the most knowledgeable, but if you cannot communicate with them technically, they are not fit to take the lead.

The best groups seem to be comprised of people with wide knowledge, not pinpoint knowledge.

The Glue That Binds

If you administer a small number of computers, you must be able to hold conversations with yourself. Communications within the group are important, but so is communicating with the end users. Unimportant communication can be scheduled, but important communications such as "THE NETWORK IS DOWN!!!" or "I just moved the license server to host bonzo," must happen instantly.

This means I can get on my stump about having system administrator offices scattered all around the building. Bad Idea. There are some valid geographic reasons, such as having buildings spread around a campus. Excepting that, I feel administrators should all be within screaming distance: "Who just started an NFS backup, it's 10 a.m.!" This close proximity generates an atmosphere conducive to holding "computer weanie" discussions. I find that these impromptu discussions give rise to the best ideas of how to improve services being provided on the network — "Why not just shoot all the users?"

The group you want to build is a small group of computer jockey types. Leave the large diverse groups for other types of tasks, such as program development. System administrators must be software jockeys, able to figure out all the new releases of software that companies are constantly ruining to keep everyone on maintenance contracts. It's a plot!! This makes me feel that administrators are best chosen by personality and intelligence rather than background. I have seen many groups hire in people that look great on a resume. I have also seen groups use the Pavlov interview method ("Does the candidate salivate when reading techno-dweeb magazines?") to much greater success.

Also, the best groups seem to be comprised of people with wide knowledge, not pinpoint knowledge. It is great to have experts in certain areas, but not to the point where, when asked a question they answer AskFredthatshisareaofexpertise. I believe in areas of responsibility, not areas of ignorance. Everyone needs to have some background about everything. That's probably why good administrators are hard to find.

Lessons In Everything

Once that "wizard-in-training" starts working with the group, how to get them from the fumble state to assured

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problem solving, depends on the level of experience.

If they are already a UNIX admin, probably only a familiarization with your environment is all that would be needed. You do have all that information well documented and charted, right? If so, just toss the stack to them. If not, expect a few weeks to come up to speed.

If the new admin is from the raw talent pool, training will be required. Do yourself a favor, don't waste your limited training budget, as so many people do, by sending people to my training center. Wait! Let me clarify that or I'll be eating Hamburger Helper without the hamburger.

Here is my pet peeve of how to waste money on training — sending a new hire to my admin training courses without preparing them for training. This means giving them some knowledge of your network, and methods used: NIS vs. passwd file copy, NIS vs. host file vs. BIND. I have had people come to training that didn't even have a guess as to how many, or what types of machines they had. That makes it difficult for the instructor to tell them what is important for them to learn.

If you have a large group, have them shadow different people for a couple days. At the worst case, send them in with a list of methods used, and a network diagram, at least the instructor will know something about your network. Also, if the instructor doesn't ask about your network size, shape and methods, find another instructor.

Everything I've written is my opinion, and remember, my opinions are my own, no one else wants them.

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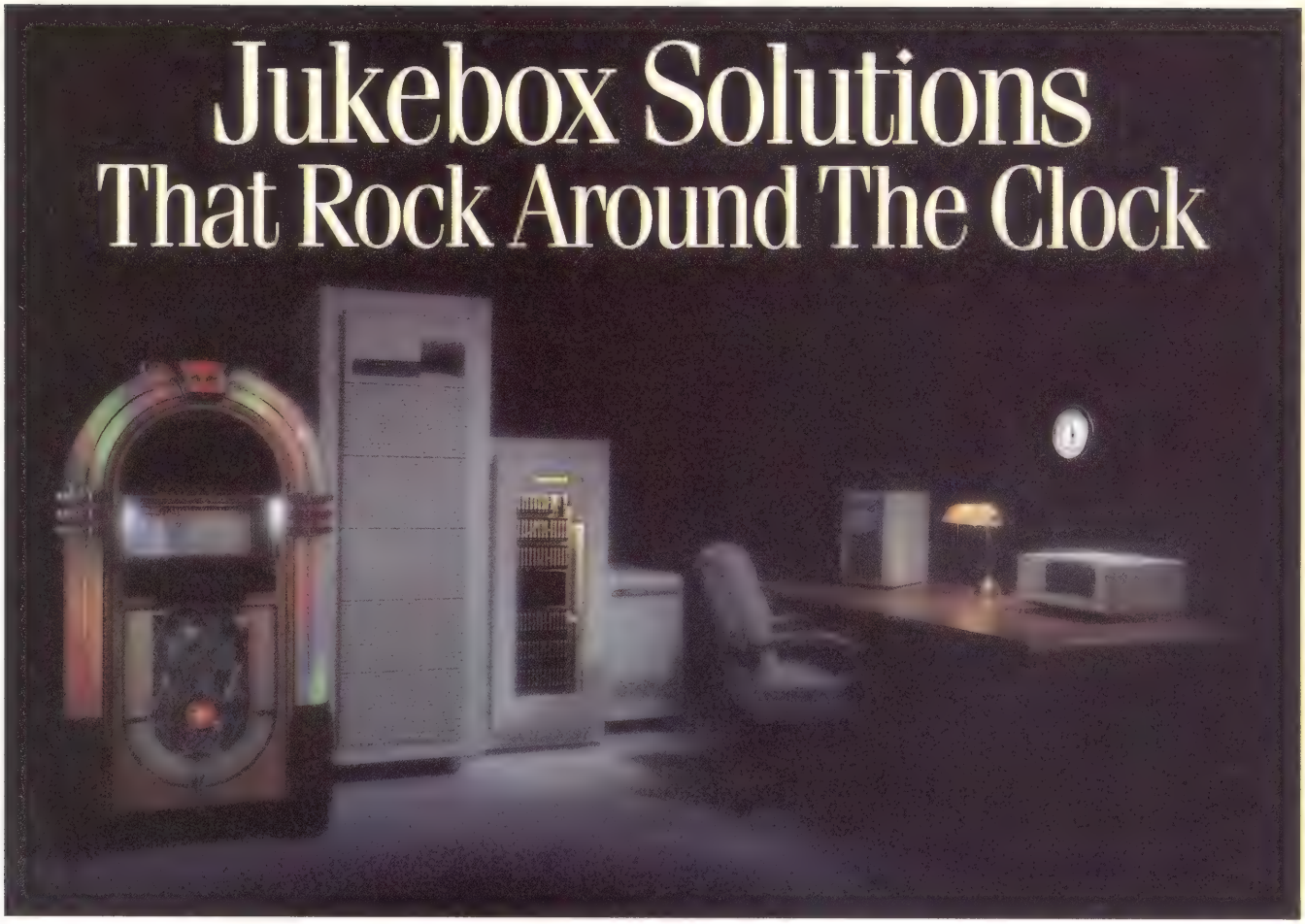

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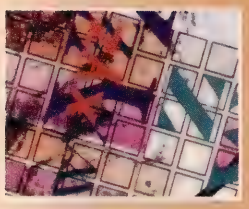

OBJECTIVELY SPEAKING

Richard Riehle

This Programming Langauage Has Proven Itself As More Than Just A DoD Language

What About Ada?

Ten years ago, in 1983, the ANSI standard for Ada was published. Ada, sometimes called the first language, was designed according to software engineering goals and principles. The U.S. Department of Defense (DoD) immediately adopted Ada as the standard for all applications. However, despite DoD support, Ada's acceptance took longer than many people in the computer industry expected. For a while it appeared that Ada might follow PL/1 and Algol into historical obscurity. Some software industry watchers even predicted the demise of Ada.

Last month, the annual TRI-Ada Conference was held in Seattle. And it showed that Ada is far from a dead language. In fact, Ada is increasingly the language of choice for some application domains, and software developers worldwide who are discovering its unique benefits.

Application Domains

Ada is particularly important in commercial and non-commerical avionics. For example, Ada is used for air traffic control systems around the world. Ada has been chosen for all Boeing 777 software, and you are probably flying on an Ada-developed system when you travel on a Boeing 747.

Software in Ada supports communication satellite systems in the United States, Europe and Japan. Industrial process control systems are developed in Ada. Large, complex financial management systems developed in Ada are executing successfully in commercial organizations. And even some governments have adopted Ada for large-scale management and office automation systems.

Ada has also proven its value in the U.S. Department of Defense. Many successful DoD applications remain classified, but some known publicly include the newest version of the Sidewinder missile, the Hellfire missile and a wide-variety of non-weapons systems. Even the well-known Tomahawk cruise missile is being re-programmed in Ada.

What do these applications have in common? They are large (100K to 1,000K lines of source code), they require high reliability and they demand an engineering approach to software development. Also, they often require mutiple concurrent processes running in parallel. Failure in such systems can result in injury or death.

What isn't as obvious about Ada is the need for maintainability and portability. When one considers that 80 percent of the software budget in a typical organization is devoted to maintenance, there are some real monetary benefits to be realized. Ada provides superior support for maintainable software and is the most portable language available.

Should You Be Using Ada?

One must select a tool by evaluating its assets and liabilities. Ada takes longer to learn than some other languages. So, it is not the proper language for a small, short-term project.

Ada requires an organizational committment. The initial investment for Ada is high, because of substantial costs in personnel training, compiler and tool acquisition, and developing your first project. So for many companies, the start-up cost is prohibitive. However, if the experience of those who have already made the transition to Ada is any measure, the short-term start-up costs can bring long-term economic benefits.

Reliability requirements and size of the development team are two other key factors in deciding when to use Ada. When software is "human-rated" (people may be jeopardized), Ada should be considered. Some software professionals rate "reliability" as the number one goal for any application. For example, software controlled medical devices, factory process control, nuclear power plants and transportation systems are good areas for Ada development.

Project team size also is important. Ada is often a correct choice because it provides good opportunities to partition a development effort across a large programming team and still ensure all the pieces fit together as expected.

Before a compiler can be called an Ada compiler, it must pass a compiler validation test that includes over 4,000 programs. This validation process is one reason why Ada is so portable. There are no dialects, subsets, or supersets permitted. No other programming language is held to so high a standard.

As of this writing, there are over 600 Ada compilers. Ada compilers encompass nearly every current hardware and software platform — several compilers are available for HP-UX. Ada software developed for HP-UX, entirely in Ada, can be easily ported to a VAX/VMS or Ultrix environment, a Sun workstation, or a Silicon Graphics system.

There is a large growing availability of Ada tools. For UNIX (including HP-UX), there are CASE tools, compilers, reusable component libraries, configuration management software and public Ada software repositories. Books and articles on Ada are plentiful, and more col-

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leges and universities are teaching Ada as part of the computer science curriculum. CASE tools supporting Ada have been incorporated into HP's SoftBench product. The Ada Information Clearing House (AdaIC) collects and distributes information about Ada, and maintains an electronic bulleting board, accessible via the Internet. The voice phone number for the AdaIC is (800) ADAIC-11.

Sounds Too Good!

Ada is not always the right tool. ANSI-85 COBOL for example, discussed in a previous article, may often be the right tool. Also, don't overlook the new ANSI-90 FORTRAN standard for scientific software. Another excellent alternative is C++. However, using C++ correctly has many of the same start-up costs required for Ada. Based on a DoD commissioned study comparing C++ to Ada, five separate consulting groups concluded that Ada was still the better choice for the DoD software development.

What about C? I personally believe C is dangerous for applications development. There are reasons to use C in systems programming, but rarely for applications. C's popularity is infecting current application software with hidden diseases that will produce run-time abnormalities long after the original programmers have moved on.

Nevertheless, one benefit of Ada is its built-in ability to incorporate code from other languages. This feature permits the developer to use the best features of Ada (high-level design, reliability and maintainability) and a minimum of a low-level language such as C or assembler.

Ada's Future

Because of the increasing number of successfully completed projects, its adoption by more non-defense organizations, and its acceptance by the international community, Ada's prospects appear bright.

The Ada standard is periodically reviewed and revised. Ada 9x, the current proposed revision, promises to be as solid as the 1983 standard. It will include new features for Object-Oriented Programming (OOP), and strengthen Ada's support for business data processing applications.

Don't be fooled into believing that Ada is just a DoD language. It's not. This is especially true if you also intend to incorporate CASE technology into your development plans. Or if you need to build large, reliable applications in HP-UX, Ada is a good alternative.

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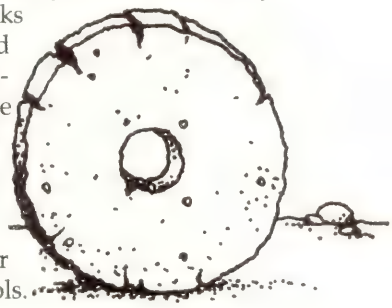

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NEW PRODUCTS

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The FX14 is equipped with 4 MB of RAM, twisted-pair Ethernet, one serial port and a parallel port.

Local X clients include: OSF/Motif and OPEN LOOK window managers; HDSterm local VT320 emulation; HDS3270 local IBM terminal emulation and HDSperx, a set of local software applications that includes a clock, calculator, alarms, screen saver and screen lock.

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The first OE product, Syspak, includes time-saving automation features that let users manage by exception, plus graphic and on-line analysis tools for identifying and investigating performance issues in depth. Carolian also announced an OE version of its console automation product Galcon, which provides 24-hour console monitoring, and voice and pager alerting for single and multiple systems.

Contact Carolian Systems, 3397 American Dr., Unit 5, Mississauga, Ontario L4V 1T8; (416) 673-0400.

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Cross-Reference Utility Available For HP 9000s

Productive Software Systems Inc. announced ROBOT/UX, a source-code cross-reference utility for HP 9000 systems.

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PRDS Turns LaserJet 4L Into PostScript Printer

Pacific Rim Data Sciences (PRDS) announced PageBlaster Universal FM (PBU FM), a SCSI/Centronics/RS422 interface which includes PostScript emulation software, UltraScript MacFAX, which allows a variety of low-cost printers including the HP LaserJet 4L to output high quality PostScript documents.

The PBU FM is an external microprocessor-based SCSI-to-Centronics/RS422 protocol converter that performs on-the-fly format conversions of page description data to make it compatible with the target printer.

The PBU FM can be plugged into phone lines through the user's external fax/modem or it can be configured by PRDS to include a fax/modem. It has a full megabyte of RAM on board (expandable to 4 MB) to buffer up to 30 pages of fax data.

Price for PBU FM, including UltraScript MacFax with 15 Type 1 fonts, is $495.

Contact Pacific Rim Data Sciences, 47307 Rancho Hiquera Dr., Fremont, Calif. 92649; (800) 854-2433.

Circle 394 on reader card

ORBiT Offers Plan-B

ORBiT Software announced Plan-B, an unattended client-server backup solution which backs up networked PCs and servers to an HP 3000 or HP 9000 host computer.

With Plan-B, PC data is backed up to HP 3000 or HP 9000 disk files, which are then stored with the normal host system backup. Alternately, PCs may be backed up through the host directly to tape.

Backups are initiated automatically by the host computer, while restores are initiated by the PC user.

Contact ORBiT Software, 315 Diablo Rd., Danville, Calif. 94526; (510) 837-4143.

Circle 398 on reader card

CSM System Supports Oracle and HP 9000

Clarify announced that its comprehensive Customer Service Management (CSM) system now supports both the Oracle RDBMS and the HP 9000 family of servers and workstations.

The Clarify CSM system is comprised of ClearSupport, the technical support management system; ClearQuality, the defect tracking system; and ClearLogistics, the field service inventory management system.

The products are client-server-based and run native on most desktop computers.

Contact Clarify Inc., 2702 Orchard Pkwy., San Jose, Calif. 95134; (408) 428-2000.

Circle 396 on reader card

CaseWare Releases CaseWare/CM 3.1

CaseWare Inc. announced the 3.1 release of CaseWare/CM, a full-featured Software Configuration Management (SCM) system

Reader Information

This month's issue contains many advertisements for hardware and software products available for your HP systems. Your investment in these products today could mean a more lucrative future for your company. Use the information below to learn more about the advertisers' offerings, then use the reader information card to initiate your direct link to valuable information about these advertisers' products.

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CIRCLE 200
Hewlett-Packard approved product developer specializing in MICR printing (magnetic ink character recognition) for producing checks from Accounts Payable, Payroll and Claims applications.
Call (800) 347-3638.

ARTECON INC.
CIRCLE 242
Artecon is a leading systems integrator and manufacturer of value-added hardware and software products for the UNIX marketplace. Product lines include: Opticals, Removables, Backups, Storage and Accessories.
Call (800) USA-ARTE, FAX (619) 931-5527.

COGNOS CORP.
CIRCLE 117
Cognos provides application development software for HP MPE V, MPE XL and HP-UX platforms.
Call (800) 4-COGNOS.

COMPUTER MARKETING INTERNATIONAL INC.
CIRCLE 454
Independent distributor of new and refurbished HP Apollo workstations and peripherals. We provide in-house technical support and depot repair services. We are committed to providing 100% customer satisfaction on every order. **Call 800-497-4CMI.**

CONCORDE TECHNOLOGIES
CIRCLE 232
Broad line of HP mass storage (disk, tape, optical) and RAM memory upgrades for HP, Apollo, DEC, SUN, RS/6000 and Silicon Graphics computers. Best prices, availability, warranty and support. **Call 1-800-359-0282 for complete information and pricing.**

CORT DIRECTIONS
CIRCLE 160
Comprehensive payroll and personnel system for installations requiring the ultimate combination of horsepower and flexibility. Real-system trail available.
Call (503) 388-3800.

FALCON SYSTEMS INC.
CIRCLE 110
Falcon Systems Inc. is a supplier of UNIX workstation upgrade and enhancement products, as well as a UNIX system integrator and Hewlett-Packard reseller. Products include: memory, disk, tape, optical and mass storage solutions, such as RAID, disk arrays, optical jukeboxes and tape jukeboxes. Also, SCSI, SCSI-2, Fast SCSI-2 and differential disks, all backed by the best warrantees in the business. **Call (800) 326-1002.**

HERSTAL AUTOMATION LTD.
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Reasonably priced data storage subsystems with performance in mind. **Call (313) 548-2001.**

IEM INC.
CIRCLE 122
Affordable hardware solutions, from memory boards and interface cards to the latest in optical disk technology.
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INFORMATION BUILDERS INC.
CIRCLE 247
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TEXAS ISA INC.
CIRCLE 245
Complete range of mass storage devices and their peripherals for HP 3000, 1000 and 9000 from ISA.
Call (713) 493-9925, FAX (713) 493-2924.

KINGSTON TECHNOLOGY CORP.
CIRCLE 281
Kingston Technology designs and manufactures memory upgrades for PCs, laptops, workstations and laser printers. The Kingston product line also features mass storage subsystems and processor upgrades.
Call (800) 835-2545, FAX (714) 435-2699.

MARTECH
CIRCLE 220
Highest quality solutions at the lowest price available. Complete line of memory products for HP 9000, 3000 and 1000 computers. Also RAM for Apollo Domain Series 2500-5500. Ship from stock. Call for your pricing today! **Call (800) 582-3555.**

M.B. FOSTER ASSOCIATES LTD.
CIRCLE 155
DataExpress the #1 End User Computing Environment and report writer. EDI Windows, translation software. Reflection and the Network Series.
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MINISOFT INC.
CIRCLE 472
Minisoft 92 for DOS and Windows providing HP terminal emulation and LAN connectivity for just $129.
Call (800) 682-0200.

NEWPORT DIGITAL CORP.
CIRCLE 488
Accelerator cards for HP 9000 Series 200 plus HP 310 and HP 320. Ten-fold performance improvement.
Call (714) 730-3644.

NSD INC.
CIRCLE 161
With job management and MIS productivity products from NSD, your HP 3000/9000 will run smoother, faster and better.
Call (415) 573-5923 or (800) 538-3818.

O'PIN SYSTEMS
CIRCLE 258
REVEAL from O'PIN SYSTEMS solves report distribution problems. User go " paperless" and view reports directly from PCs or terminals. Saves time and fast payback too! **Call (800) 888-1804.**

PERICOM INC.
CIRCLE 214
Pericom Inc. is a supplier of terminal emulation software for MS-Windows and the X-Windows environment. Some of our emulations include DEC VT320-340 and 420, Tektronix color graphic terminals, Prime, Data General, and Tandem.
Call (609) 895-0404.

QUEST SOFTWARE
CIRCLE 268
The only complete HP 3000 solution for
1) High speed network file and database access.
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TGV INC.
CIRCLE 467
TGV, Inc. provides networking and application software for DEC environments. MultiNet delivers TCP/IP and NFS services, and MultiWare makes a VAX look like a Novell NetWare server.
Call (800) TGV-3440, (408) 427-4366.

V-SYSTEMS
CIRCLE 128
VSI*FAX is UNIX facsimile management software designed to fax-enable any UNIX software application. V-Systems develops and markets UNIX communications software. For a limited time, VSI*FAX VAR in-house units for $199. **Call (714) 545-6442 Fax (714) 545-7653.**

VIRTUAL TECHNOLOGY
CIRCLE 494
Virtual Technologies, Inc. offers the SENTINEL debugging environment for UNIX C, C++ and X-Windows Developers. It helps programmers locate and resolve hidden bugs in the use of dynamic memory. SENTINEL is the only debugging too available on multiple platforms including HP, Sun, SGI, DG, DEC amd tje RS/6000.

VITAL SOFT INC.
CIRCLE 143
VISIMAGE the end user report writer for the HP 3000 market. StarJet, the electronic forms solution for your HP LaserJet. VISIMAGE and StarJet can be sold independently.
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WRQ (WALKER RICHER & QUINN)
CIRCLE 263
Makers of Reflection Series Software. HP terminal emulation for PCs and Macintoshes.
Call (800) 872-2829.

HP Professional

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CIRCLE 495 ON READER CARD

that manages the software development and maintenance process.

The 3.1 release features significant performance enhancements over the 3.0.1 release. Also, a Developer's Task Reference and an Introduction to CM and Methodology have been added to the documentation set.

CaseWare/CM provides an off-the-shelf definition of the SCM process and now supports more sophisticated lifecycle methodologies that better facilitate larger scale software development.

Contact CaseWare Inc., 108 Pacifica, 2nd Floor, Irvine, Calif. 92718-3332; (714) 453-2200.

Circle 395 on reader card

LTI Releases Metrica For Solaris, HP-UX 9.0

Leading Technology Inc. (LTI) released Metrica 3.1 for Solaris 2.1 and HP-UX 9.0. Metrica data management tools are used by engineers and scientists for semiconductor test analysis, telecommunications network performance analysis, aircraft performance analysis, automotive testing and other data-intensive applications.

Metrica lets users store, analyze and display data with one tool, to rapidly gain maximum information from large amounts of test data. An intuitive GUI eases the tools use.

Metrica 3.1 runs on HP, Sun, IBM, Silicon Graphics and DEC workstations under HP-UX, SunOs and Solaris, IBM AIX, Silicon Graphics Iris and DEC Ultrix, respectively.

Contact Leading Technology Inc., 6 New England Executive Park, Ste. 400, Burlington, Mass. 01803; (617) 229-8686.

Circle 393 on reader card

USS Releases Version F.02.04

Unified Software Systems introduced version F.02.04 of their software line which includes enhancements to their modular software products.

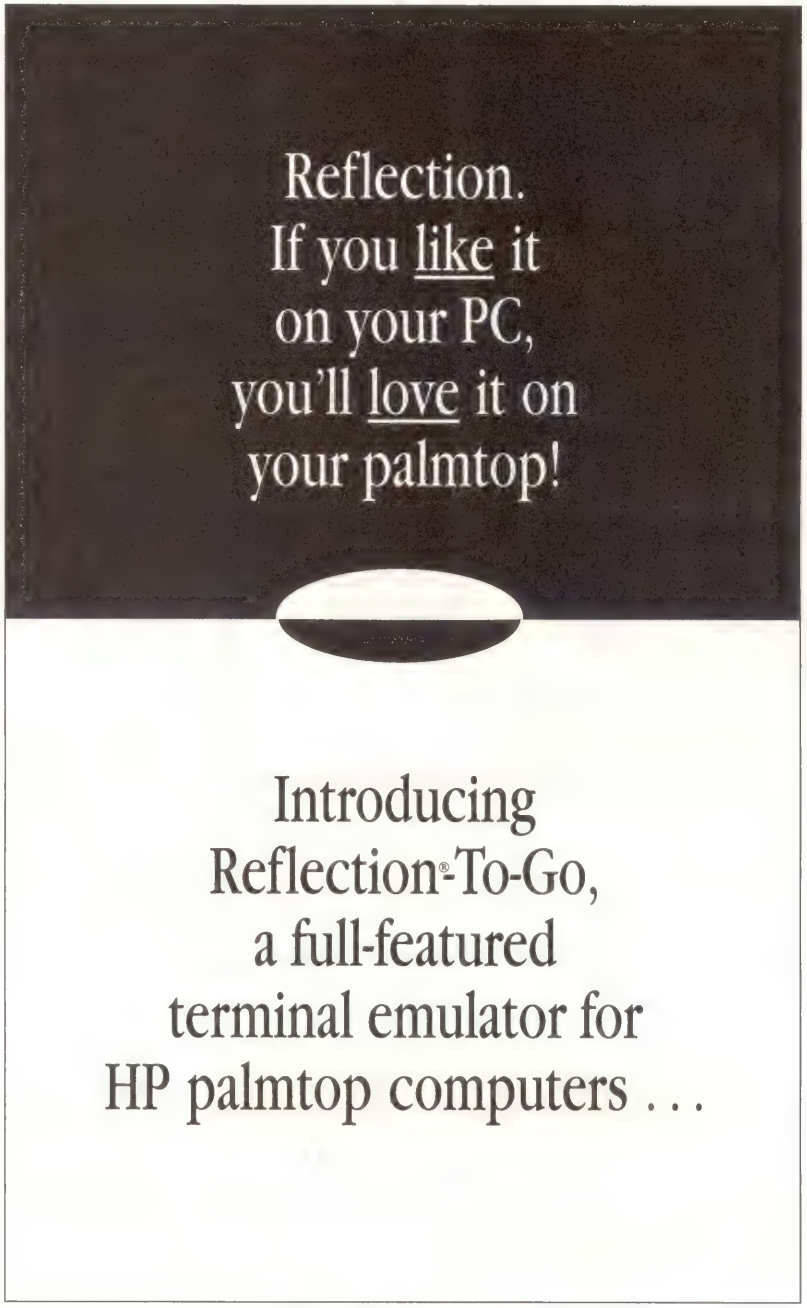
PMS3000 is a System Security package which offers the system manager the ability to control access to the system, account, user, device and application. New features include greater flexibility for sub-menu control, improved UDC, XEQ and implied MPE command processing via dynamic 'PH' capability, and an improved MPE/iX interface.

EMS3000, an HP 3000 host-based Electronic Messaging System which supports individual, group and departmental message sending, also has Appointments capability as well as priority task capability.

The software has been tested through MPE/iX 4.5 and Classic MPE version 2P.

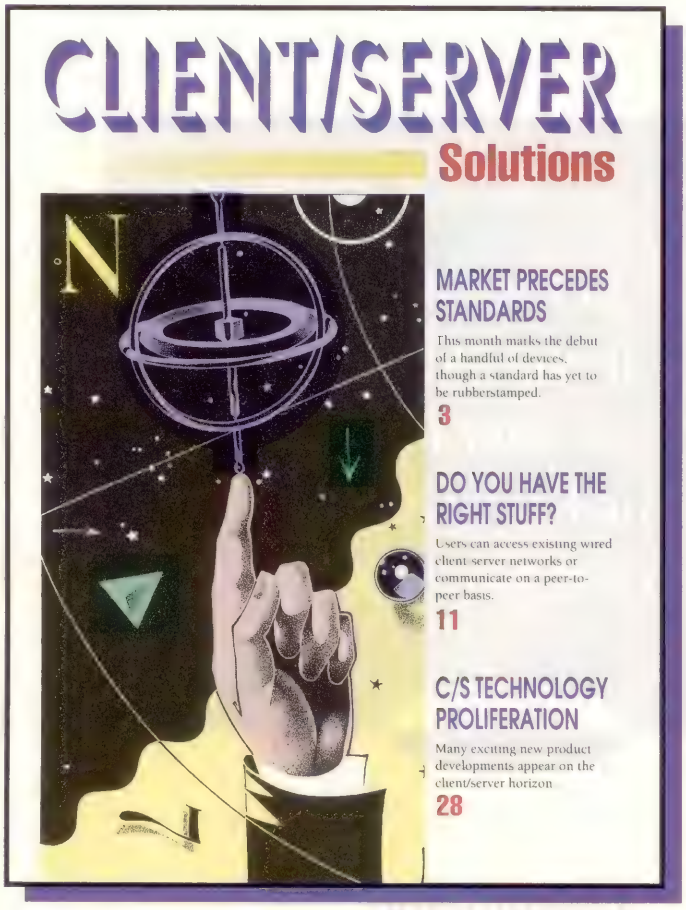
Contact Unified Software Systems, 6551 Loisdale Court, Ste. 400, Springfield, Va. 22150-1854; (703) 922-9800.

Circle 389 on reader card



CIRCLE 262 ON READER CARD

CLIENT/SERVER Solutions



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CIRCLE 480 ON READER CARD

NAT's MVSS Products Support HP and IBM

Network Application Technology Inc. (NAT) announced support for IBM's NetView/6000 and HP's OpenView Network Node Manager SNMP management platforms.

Using an OSF/Motif-based GUI, NAT's Multi-Vendor Support Series (MVSS) versions for HP and IBM provide SMNP network management for Remote Network Monitoring Management Information Base (RMON MIB) EtherMeter products. Cross-platform functionality and user interfaces are virtually identical, providing a high degree of flexibility.

Price is $1,995 per license for both HP and IBM.

Contact Network Application Technology Inc., 1686 Dell Ave., Campbell, Calif. 95008; (800) 543-8887.

Circle 392 on reader card

GBS Consultants Offers TRACKER Version D

GBS Consultants announced Version D of TRACKER, its Help Desk management system for the HP 3000.

TRACKER is a comprehensive solution including problem/request tracking and the creation of a solution's knowledgebase. TRACKER also manages hardware, software, contracts and inventory. Comprehensive reporting identifies trends and provides timely and accurate answers to both internal and external customer inquiries.

Other applications include telephones, field service, customer service, EDP compliance, resource allocation and statistical reporting. It interfaces to HP Desk and other E-mail systems.

Price starts at $4,575.

Contact GBS Consultants Inc., 6179 E. Otero Dr., Englewood, Colo. 80112; (303) 721-0770.

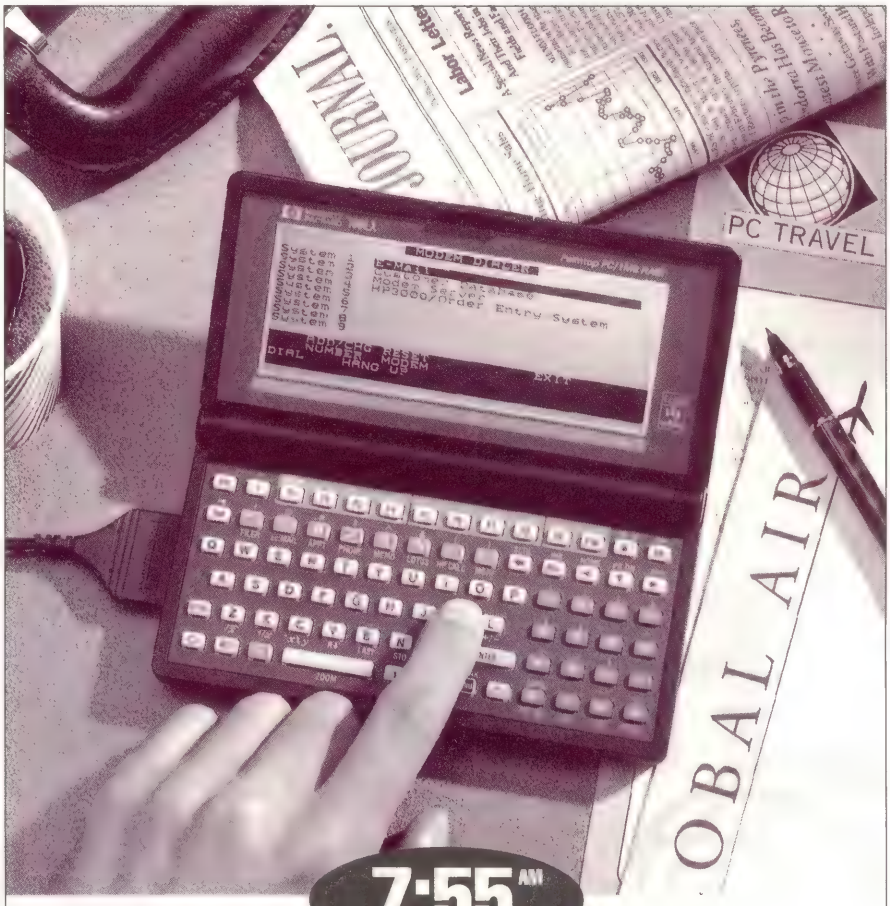
Circle 391 on reader card

UniSQL Ports DBMS To HP Workstations

HP and UniSQL announced the availability of UniSQL's advanced database management systems and applications development tools to customers using HP Apollo 9000 Series 700 workstations. HP workstation customers will be able to use UniSQL's unified relational and object-oriented technology to develop a new breed of core business applications which can naturally incorporate sophisticated multimedia data, such as images, audio, text and geographic data for mapping applications. It also integrates data managed by popular relational database systems such as Ingres, Oracle and Sybase.

UniSQL will make its UniSLQ/X DBMS, UniSQL/M Multidatabase System and UniSLQ/4GE Applications Development Environment available to HP 9000 workstation users.

Single-user license pricing for UniSQL



Jim sighed. With just minutes to catch his flight, the boss wants the memo he wrote yesterday! Good thing he has Reflection-To-Go® on his HP palmtop computer.

Reflection-To-Go is a full-featured Reflection® terminal emulator, complete with modem dialer and command language, on a PCMCIA card. Thanks to Reflection-To-Go, Jim logs on to the HP 3000 right from the airport. Because Reflection-To-Go works with PCMCIA and external modems, as well as direct serial connections. Jim uses HP DeskManager, works on block-mode applications, and even transfers files over the phone. (Like a letter composed in Memo Editor.)

"Now boarding Flight 7 . . ." Jim smiles to himself. The memo is on its way.

The moral? Make a note: if you have an HP 100LX or an HP 95LX, Reflection-To-Go helps you work smarter.

Call 1-800-92NETWORK

WRQ Reflection

Making PC Connections Count

Walker Richer & Quinn, Inc.
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Reflection and Reflection-To-Go are registered trademarks of Walker Richer & Quinn, Inc. All other trademarks are the property of their respective holders.

CIRCLE 262 ON READER CARD

products begins at $3,995.
Contact UniSQL Inc., 9390 Research II, Ste. 220, Austin, Texas 78759-6544; (512) 343-7297.

Circle 390 on reader card

Training Products Offered For CA-UNICENTER/UNIX

Hands On Learning and Computer Associates jointly produced a set of self-paced training products on CA-UNICENTER/UNIX For HP-UX.

The tapes will offer quality training for CA-UNICENTER, the heterogeneous systems management software.
Contact Hands On Learning, 27 Cambridge St., Burlington, Mass. 01803; (617) 272-0088.

Circle 388 on reader card

Marcam Acquires Varnet Group

Marcam Corp. announced that it has entered into a definitive agreement to acquire The Varnet Group. Marcam will market Varnet's products as its MAPICS XP product line.

MAPICS XP is a line of 20 integrated modules which provide comprehensive functions for financial, production, logistics and sales management, human resources and field service applications. The software is available immediately on multiple systems including HP 9000, IBM RS/6000, DEC VAX and Alpha, and Intel-based PCs. MAPICS XP is written with Progress Software's 4GL which uses multiple relational databases and supports client-server computing.
Contact Marcam Corp., 95 Wells Ave., Newton, Mass. 02159; (617)965-0220.

Circle 385 on reader card

RWCGEN Integrates View.h++ And UIM/X

Rogue Wave Software Inc. and Visual Edge Software Ltd. announced the integration of UIM/X 2.5 with View.h++ 1.2 to produce RWCGEN.

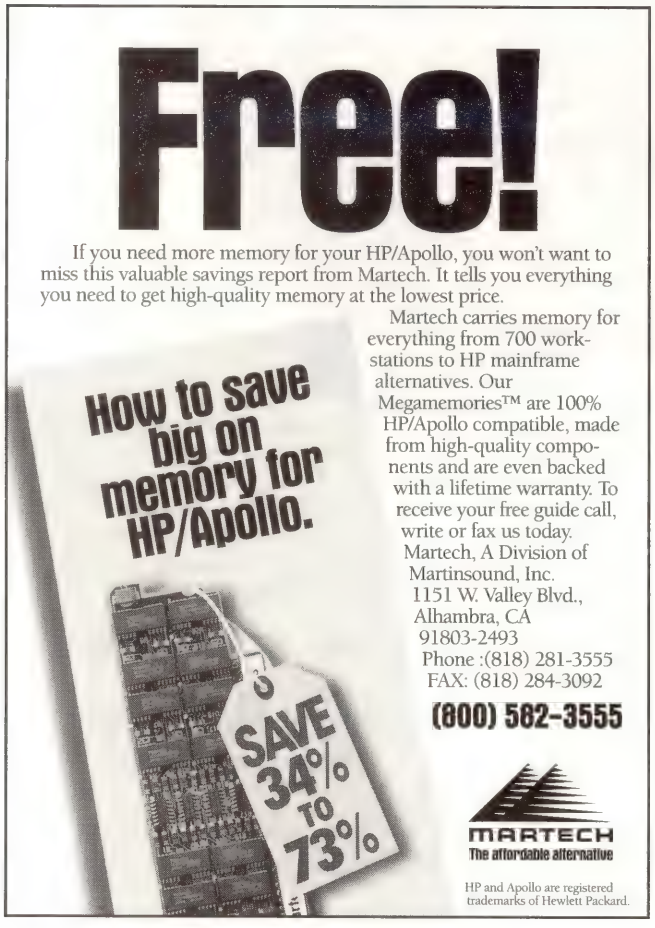
Key features of RWCGEN include: automatic generation of View.h++ code; C++ support for a predefined framework; adherence to a "model-view-controller" paradigm; a code stripping option; and Motif 1.1 and 1.2 support.

Price is $695.
Contact Rogue Wave Software Inc., P.O. Box 2328, Corvallis, Ore. 97339; (503) 754-3010.

Circle 384 on reader card

Development Speeds Increase For RF Applications

LXE Inc. announced new software development tools that dramatically increase the speed of RF application development. End users or third-party developers can quickly create new RF applications by using powerful, new development tools that support many different host computer platforms. The development tools are ComServer, FormBuilder and Probe. Hosts supported include: HP MPE and HP-UX, MS-DOS, MS-



CIRCLE 220 ON READER CARD

Windows, IBM AIX, DEC VMS, DEC Ultrix, SunOS, Xenix and SCO System V.

ComServer is a communications manager for LXE's LDS II asynchronous systems. It handles all communications between the host and the LXE 6200 series Network Controllers.

FormBuilder offers the ability to develop forms applications. By using the pull-down interactive user interface, developers can build forms and specify their characteristics and attributes.

Probe allows you to benchmark your RF applications without having an RF system attached. It intercepts messages for the RF system and responds to the application using a custom script.

Contact LXE Inc., 303 Research Dr., Ste. 144, P.O. Box 926000, Norcoss, Ga. 30092-9200; (404) 447-4224.

Circle 387 on reader card

Corel Releases CorelDRAW 4

Corel Corp. announced CorelDRAW 4, the most recent release of their graphics software package. CorelDRAW 4 includes a new object-oriented animation program, CorelMOVE.

CorelDRAW is ideal for desktop professionals, technical illustrators, architects, prepress service bureaus and corporate users for illustrations, charting and multimedia presentations.

Several enhancements to CorelDRAW include: support for multipage documents, advanced text controls that allow text to flow from frame to frame, power lines that allow users to draw with a variety of shapes, new fills that combine multiple colors in linear, radial and conical fills, and advanced control over tabs, bullets and indenting.

Contact Corel Corp., The Corel Bldg., 1600 Carling Ave., Ottawa, Ontario K1Z 8R7; (613) 728-8200.

Circle 382 on reader card

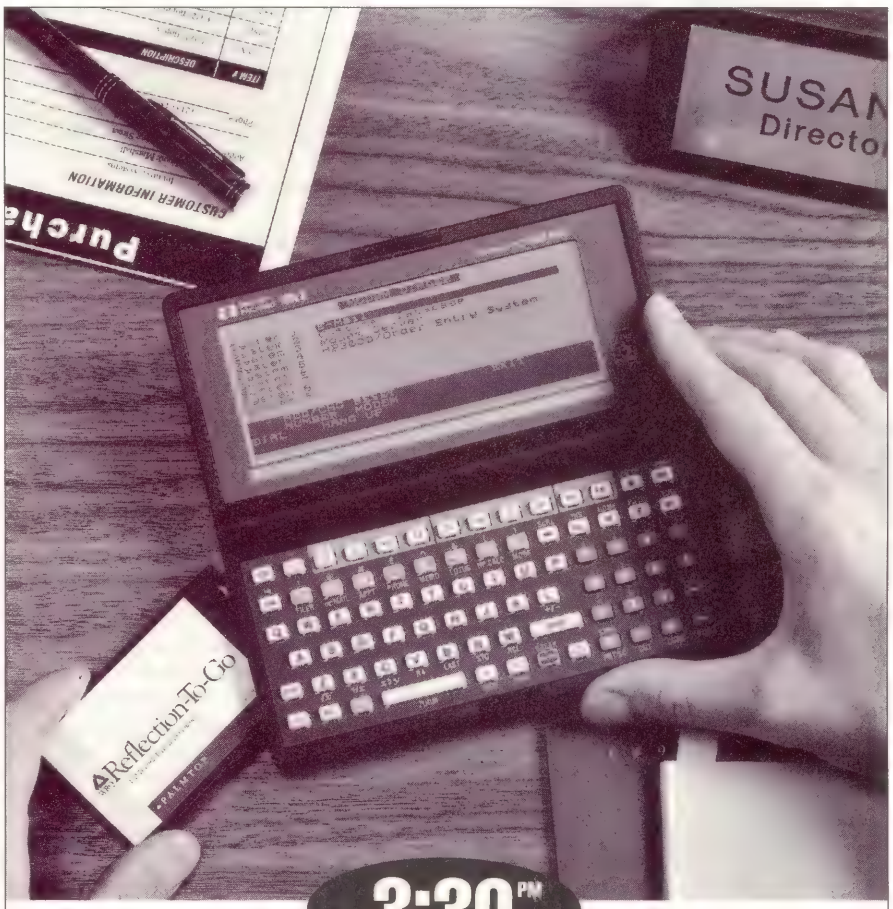
AR System Integrated Into StarSENTRY

NCR Corp. extended the functionality of the StarSENTRY enterprise systems management platform by providing seamless integration with Remedy Corp.'s Action Request (AR) System.

With this integration, network and systems managers can have advanced, comprehensive network helpdesk and trouble ticketing capabilities. StarSENTRY automatically generates and completes AR System trouble tickets based on conditions and "traps" which may be fully customized by the user. This notification can occur in conjunction with any of StarSENTRY's other automated response options.

StarSENTRY systems management and Remedy's AR System run together on Intel-based UNIX Systems V Release 4 systems. Contact NCR Corp., 1700 S. Patterson Blvd., Dayton, Ohio 45479; (513) 445-5000.

Circle 381 on reader card



3:30 PM

Jim felt his stomach tense. Two months' work is riding on this sale, and finally he is in the client's office. Then the client asks, "How soon can you deliver?"

Success! Thanks to Reflection-To-Go® on his HP palmtop computer, Jim has the answer—straight from the HP 3000. "The order will ship tomorrow."

Reflection-To-Go lets Jim dial in to the HP 3000 anytime. Even when it's 3:30 p.m. on the West Coast, and the East Coast office is closed. Reflection-To-Go is a complete Reflection® terminal emulator that uses state-of-the-art PCMCIA technology. It fits on a credit-card sized card. Now, Jim works on block-mode applications, checks HP Desk messages, or transfers files from almost any phone—without packing any extra baggage.

The moral? Stay in touch: if you have an HP 100LX or an HP 95LX, Reflection-To-Go helps you work smarter.

Call 1-800-92NETWORK

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Reflection and Reflection-To-Go are registered trademarks of Walker Richer & Quinn, Inc. All other trademarks are the property of their respective holders.
Reflection-To-Go works with PCMCIA-based modems, external modems, or over a direct serial connection.

CIRCLE 262 ON READER CARD

Teklogix' 7025-I integrated scanning terminal.

Teklogix Unveils 7025-I Terminal

Teklogix introduced the 7025-I integrated scanning terminal. The one-piece handheld RF terminal combines all of the features of the advanced 7025 terminal with the convenience of an integrated bar code scanner.

The 7025-I is based on 32-bit microprocessor technology. The 7025-I is completely interchangable with Teklogix' 7025 terminal. It features multi-host connectivity, multi-emulation capability, guaranteed sub-second response time and multi-page support.

The 7025-I has built-in decoding software to provide auto discrimination of virtually all bar codes. It also has programmable function keys to solicit application tasks from the host computer.

Contact Teklogix, P.O. Box 215, Fishers, Ind. 46038-0215; (317) 849-1390.

Circle 379 on reader card

MiniSoft 92 Executes Reflection Commands

MiniSoft Inc. announced that MiniSoft 92, an HP and DEC terminal emulation software package, now executes selected Reflection command language commands.

For sites that use both Reflection and MiniSoft 92 for terminal emulation, MiniSoft 92's support of the Reflection command language means that the site maintains only one set of script files.

MiniSoft 92 also includes its own command language. Current releases are 2.5 for WIN92 and 7.5 for DOS 92.

Price is $159 for serial or LAN connections. Contact MiniSoft Inc., 13617 State Hwy. 9, Snohomish, Wash. 98290-9000; (800) 682-0200.

Circle 383 on reader card

NSSI Introduces NET-UPS

Network Security Systems Inc. (NSSI) introduced its line of NET-UPS, Network-Ready UPSs, designed to provide dependable and ready-to-use network power backup and management solutions in Novell or UNIX environments. Each NSSI NET-UPS gives system administrators what they need to set up a complete network power system — intelligent uninterruptible power supply, RS-232 serial cable for bi-directional com-

What works hard, doesn't take coffee breaks, never calls in sick, and pays for itself?

NSD's JobRescue™! JobRescue is sophisticated job management and error detection software for the HP3000. JobRescue automates $STDLIST reviews and eliminates printing! It works in the background continuously examining for errors or other user-defined messages. And JobRescue automatically saves all $STDLISTs to disk, so you won't worry about them being lost–even in a system crash. Installation is easy and, once launched, the program runs as an unattended job. JobRescue is a valuable management-by-exception and quality assurance tool designed to boost productivity.

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CIRCLE 215 ON READER CARD

munication across the network and network power management software (LanSafe II).

With NET-UPS, administrators can troubleshoot power problems and monitor real-time loads, battery and voltage status. Pull-down menus provide the ability to change power and program settings instantly, conduct networkwide tests, reboot or shut down any protected network device, and view historical power event logs.

Contact Network Security Systems Inc., 9401 Waples St., San Diego, Calif. 92121; (619) 587-7950.

Circle 380 on reader card

Hooleon Provides Custom Keyboard Kit

Hooleon Corp. announced a "Custom Keyboard Kit for the Visually Impaired." The product features high contrast, large print key top legends for a standard 101-key style keyboard in combination with raised Braille characters. The combined Braille/printed key top legends are applied to durable labels that adhere directly to the top of the keys.

The size, spacing and height of the Braille dots in the kit have been designed specifically to comply with the provisions outlined in the Americans With Disabilities Act.

Price is $21.95.

Contact Hooleon Corp., 260 Justin Dr., Cottonwood, Ariz. 86326; (800) 937-1337.

Circle 378 on reader card

Aston Brooke Releases DB-Vision For HP-UX

Aston Brooke Software released Version 1.1 of DB-Vision Oracle performance monitor for customers running HP-UX Version 8.0 or 9.0 on the UNIX system-based HP Apollo 9000 Series 700 workstations and HP 9000 Series 800 business servers. DB-Vision is a comprehensive set of tools for monitoring and tuning the Oracle RDBMS.

DB-Vision allows administrators to monitor multiple networked Oracle instances from a single workstation. Performance measures include: database availability, I/O activity by datafile, lock wait frequency, extent statistics, rollback segment activity, index performance, tablespace statistics, latch wait frequency and buffer efficiency.

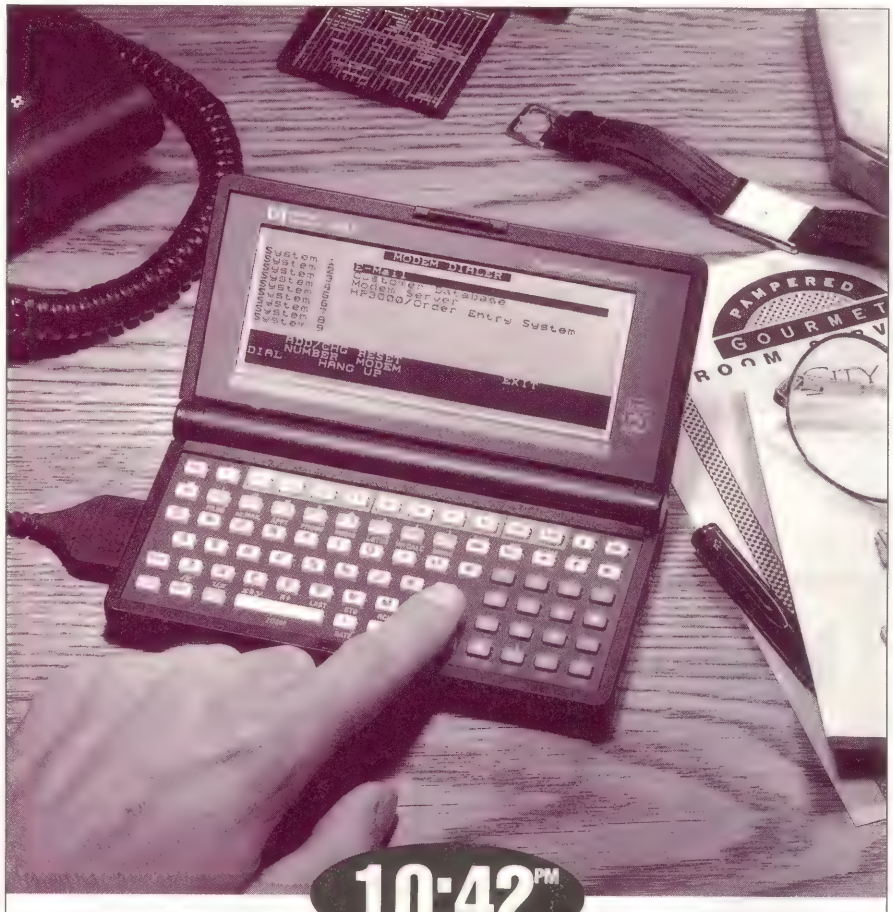
Contact Aston Brooke, Plymouth Meeting Executive Campus, 610 W. Germantown Pike, Ste. 300, Plymouth Meeting, Pa. 19462; (215) 834-3960.

Circle 377 on reader card

AMASS Supports Creo Tape Drive

Creo Products Inc. and Advanced Archival Products announced that the AMASS high performance UNIX file system now supports Creo's terabyte optical tape drive. It will be available for HP 9000, Sun and IBM RS/6000 hosts running the UNIX operating system.

The AMASS storage system software provides a total solution for attaching a multi-



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terabyte optical tape library to a workstation or server. Its completely transparent single file system interface and unlimited file system size allow existing applications to take advantage of the low cost and permanence of optical tape storage.

The Creo optical tape drive provides one terabyte of storage per tape volume and provides fast, direct access to any record on the volume. Multiple drives may be coupled with the AMASS storage software, providing online access to several terabyte and cost-efficient, secure archival of petabytes.

Contact Creo Products Inc., 3700 Gilmore Way, Burnaby, British Columbia V5G 4M1; (604) 437-6879.

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IEM Releases SCSI Tape Drives

IEM introduced a new line of 8mm SCSI tape drives that support all HP 1000, 3000 and 9000 Series computer systems. They also support Series 3000 MPE/iX SCSI systems.

The 8mm drives are available with either data compressed (up to 20 GB per tape) or non-compressed (5 GB) configurations. IEM has developed a new SCSI to SCSI controller board that eliminates the need for any software drives or operating system dependencies. The controller board also supports 8200, 8500 and 8500C formats, fast search, spanning multiple volumes and can provide up to 28 percent performance increase. By eliminating software require-ments, IEM's 8mm products can be moved from system to system without requiring any software or hardware changes.

The six new 8mm products are: 4870S 5 GB standalone drive; 4880S 5-20 GB (with data compression) standalone drive; 4875SC 10-tape 50 GB autofeeder; 4885SC 10-tape 50-200 GB (with data compression) autofeeder; 4876SC 10-tape 50 GB intelligent autofeeder; and 4886SC 10-tape 50-200 GB (with data compression) intelligent autofeeder.

Contact IEM Inc., 1629 Spruce Dr., Fort Collins, Colo. 80524; (303) 221-3005.

Circle 374 on reader card

Sequent, BSW Announce InterOFFICE 4.0

Sequent Computer Systems Inc. and The Boston Software Works Inc. (BSW) announced the availability of Version 4.0 of InterOFFICE Message Exchange, BSW's electronic mail integration software, on Sequent's Symmetry 2000 family of highly scalable, symmetric multiprocessing servers. InterOFFICE for Symmetry includes a set of core services, access units for Microsoft Mail, Lotus cc:Mail and UNIX mail, and con-nectivity to the rest of the InterOFFICE family of electronic mail gateways.

InterOFFICE Message Exchange trans-parently connects to many office automation and E-mail systems, including Microsoft Mail for DOS and Windows, Lotus cc:Mail, UNIX mail, HP DeskManager and OpenMail, DEC ALL-IN-1, IBM Office-Vision/400 and OfficeVision/VM (and PROFS), and WangOFFICE.

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text memos, revisable word processing documents, meeting invitations and binary attachments like spread sheets, to users of other mail systems without leaving any new commands or addressing formats.

Contact Sequent Computer Systems, 15450 S.W. Koll Pkwy., Beaverton, Ore. 97006; (503) 626-5700.

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ACOM Announces Check Director

ACOM Computer Inc. announces the Check Director (MC5832), a high speed, high volume laser check printer for applications running on mainframe, midrange and PC networks. ACOM's MC5832 has a rated speed of 32 pages per minute and a duty cycle of 200,000 pages per month.

Based on the Ricoh LP-M32 print engine, the MC5832 has been engineered to comply with ANSI specifications for laser check printing.

The ACOM MC5832 features high resolution 400 x 400 dpi output for graphics and comes fully loaded with 8 MB of RAM, a 1.44 MB disk drive and a 25 MHz 32 bit processor with an optional 40 MB and 120 MB hard drive.

Multi-host, multi-network interface options include L/400 Twinax, M3000 Coax, NetWare Token Ring, NetWare Ethernet, DECnet, TCP/IP, RS/232 and Centronics. Printer emulations include HP-PCL, HP-GL, Adobe PostScript, IBM 3812 and 3287.

Contact ACOM Computer Inc., 2850 E. 29th St., Long Beach, Calif. 90808; (800) 347-3638.

Circle 372 on reader card

Artecon Announces Expanded Line Of Jukeboxes

Artecon introduced a new expanded lineup of multifunction jukeboxes ranging from 10 GB to over 200 GB capacity, for both SPARC and HP 9000 networks with archiving and nearline storage needs.

Artecon also introduced FileTrek, a client-server-based distributed Hierarchical Storage Management System (HSM).

ArteEOJ, Artecon's optical management software, comes bundled free with 10, 16, 20, 32 and 56 platter jukeboxes running on the SPARC platform with Solaris 1.x or later. ArteEOJ features a GUI that makes loading, unloading and all other optical cartridge handling functions fast and easy.

FileTrek is available for all jukeboxes running on SPARC and HP 9000 systems. It is a true client-server network-based HSM supporting automatic file migration to and from optical jukeboxes and tape stackers anywhere on the network.

Pricing starts at $13,995 for the 10-slot 10 GB jukebox.

Contact Artecon, 2460 Impala Dr., Carlsbad, Calif. 92008-7236; (619) 931-5500.

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HP Announces FAX-900, FAX-950

HP announced two plain-paper fax machines designed to encourage even the most budget-conscious buyers to forego slippery, curling thermal fax paper.

The HP FAX-900 and HP FAX-950 inkjet fax machines will replace the HP FAX-200 and HP FAX-310.

The new fax machines print faster and offer better print quality and higher quality halftones. Both devices are well-suited to workgroups of up to 20 people.

Both machines come with a two-line alphanumeric display and are compatible with all Group 3 devices.

The HP FAX-950 has a telephone handset and a confidential mailbox feature, and comes standard with 512 KB of memory which can be expanded to 2.5 MB.

UniData Ships Release 3.1

UniData Inc. shipped Release 3.1 of the UniData relational database management system (RDBMS) and application development environment.

UniServer and UniDesktop are UniData products that use DB-Library and other Sybase Open Client/Open Server technology. UniData Release 3.1 with its UniServer product delivers increased open database interoperability, including executing SQL statements and stored procedures, and processing remote procedure calls.

UniServer also provides a schema generation utility to quickly analyze a UniData account, update a VOC and DICT files, and build appropriate SQL schema tables required by PC DSS tools.

Additions to the standard Release 3.1 product include USAM (UniData System Administration Manager), CallBasic, UEntry and UReport.

Contact UniData Inc., 999 18th St., Ste. 3050, Denver, Colo. 80202; (303) 294-0800.

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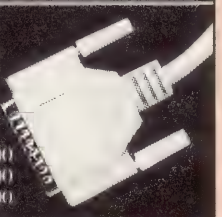

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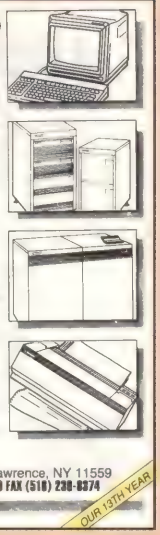

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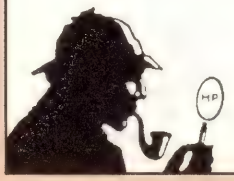

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Next Step In The Wrong Direction

Gordon McLachlan

Forced by hard economic reality to bail out of the hardware business, Next Inc. has reincarnated itself as a software company, and is trying desperately to stave off dissolution by porting its NextStep to other platforms. With an Intel version of NextStep just shipping, we now have promises of NextStep for HP's PA-RISC architecture.

Sounds good, but the question is, does it matter? What possible good can this alliance hold for HP, and more importantly, its customers?

Well, there are good ideas, and then there are good products. NextStep belongs in the first category. And Next's CEO, Steve Jobs, should understand the difference. He ripped off some good ideas developed at Xerox's Palo Alto Research Center and successfully implemented them on the Apple Macintosh. I guess what goes around comes around, because ideas may be all that Jobs' new company has left to sell. Next has been hemorrhaging red ink since its inception, and is down to its last few dollars.

Next claims an installed base of 50,000 users — totally insignificant in the grand scheme of things. Put another way, for every 2,000 PC users, there is a single NextStep user. Those are not the kind of numbers that encourage vendors to throw their money into the software development rat-hole. And, this significant lack of a user base translates into a real shortage of useful applications. Even vendors of software that run on the old Next workstations are hesitant to support any new versions. Don't look for this situation to change magically just because NextStep is coming out on PA-RISC, Intel, or any other hardware platform.

As part of the deal, HP will get NextStep on PA-RISC, and a distributed object and systems management framework that runs on HP-UX systems. This is great in theory, but before NextStep can fit into HP's erstwhile strategy, it is going to have to incorporate the Object Management Groups' Common Object Request Broker Architecture (CORBA), and the Open Software Foundation's Distributed Computing Environment (DCE) and Distributed Management Environment (DME).

The NextStep deal is at best a stop-gap maneuver, and at worst, portends more confusion for HP customers.

The NextStep partnership also doesn't seem to jive with HP's involvement in the Common Open Software Environment (COSE) love-in. COSE, the quasi-partnership between HP, DEC, IBM, Novell and Sun, is supposed to provide a unified UNIX and specifications for object-orientation and system management, and would clearly compete against NextStep — if NextStep were worth competing against.

HP has pointed to NextStep as a way to compete with Sun in the financial services marketplace, where Sun has made inroads with its own distributed object architecture. If this is the best HP can do to become competitive in this arena, you have to wonder what they've been doing the last five years.

HP has been claiming leadership in the industry because of its involvement with every vendor and standards body known to mankind, but apparently, no one has been back at the ranch writing code.

HP may be able to get a few good ideas out of this venture; but like I said, there are good ideas, and then there are good products. When will HP start delivering the products? While it's off thinking about it, Apple, IBM and Microsoft are intensely developing the next generation of object-oriented operating systems. Unless HP wants to remain on the outside looking in, it had better get its act together. To me, and I assume to others as well, HP's strategy is unclear.

Right now, HP has a technological edge with PA-RISC and OpenView. But unfortunately, there's not much else going on. So, HP stands a risk of being eclipsed by its competitors on all fronts. They all have UNIX, and they all have faster processors in the pipeline. Once DME hits the streets, everyone will also have better systems management software.

The industry needs real leaders, and with its financial and technical resources, HP should be stepping up to the responsibility. The NextStep deal is at best a stop-gap maneuver, and at worst, portends more confusion for HP customers. Apparently unable to lead and unwilling to follow, HP has decided to use its bulk to get in the way. ■

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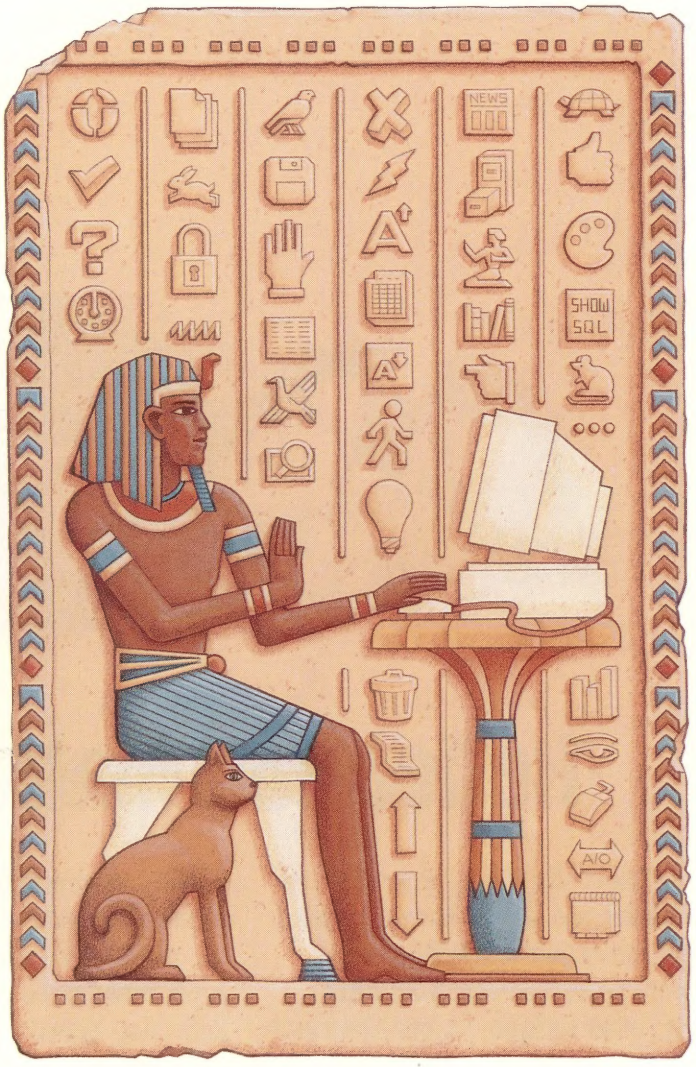

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